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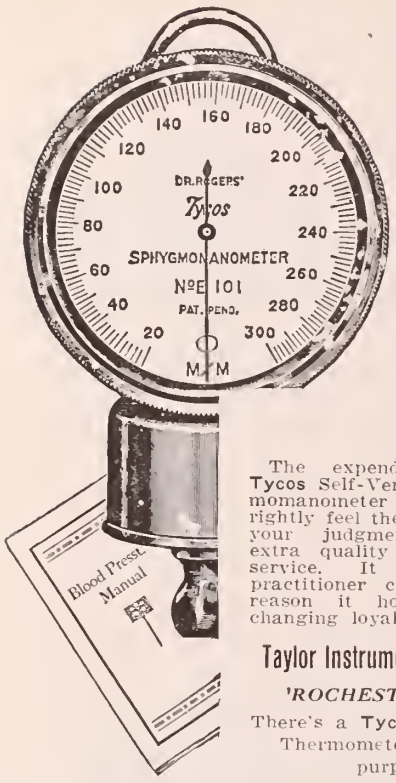
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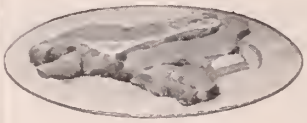


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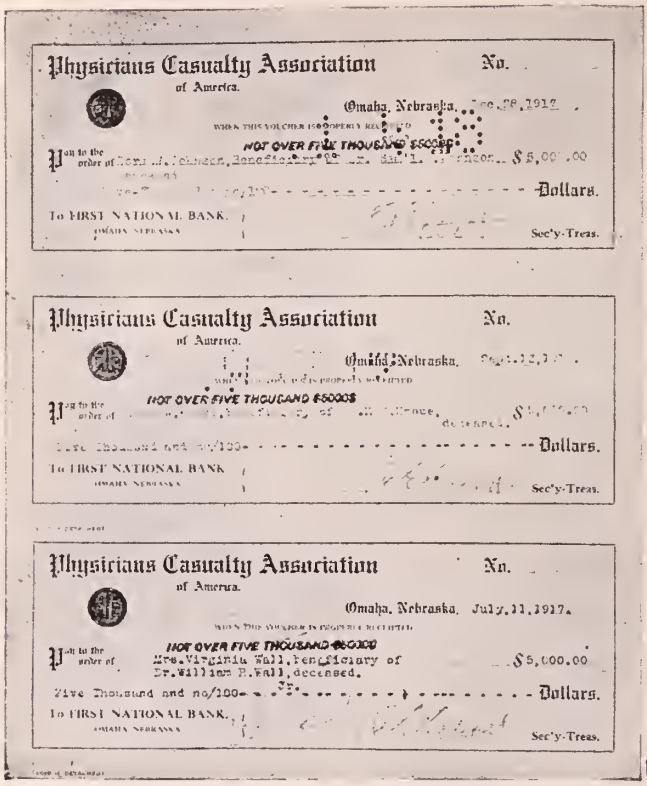
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ADDRESS OF PRESIDENT OF MEDICAL ASSOCIATION OF GEORGIA.

Dr. J. W. Palmer, Ailey, Ga.

Mr. Chairman, gentlemen of the Medical Association of Georgia and honored guests:—When I think of the brilliant men who have preceeded me as President of this Association I feel very deeply my inability to serve you as acceptably as they have. Only with your sympathetic support and kindly advice have I been able to sustain the high traditions of this office. I have not only recognized the high honor, but also the responsibility of assuming the leadership of the organized Medical Profession of the State of Georgia, during such a crisis through which we have passed since our last meeting. As your leader for the past twelve months I have not been able to honor you by wearing uniform, however, I do feel like I have honored you by trying to wear it, but instead could only wear the ensignia of, and serve you in the volunteer Medical Service Corps. I have attended these annual meetings with almost perfect regularity since 1902-3. The information and knowledge I obtained by seeing and hearing able, eminent physicians

and surgeons read and discuss papers here have been of more real value to me than any investment in life.

I desire to discuss with you this morning some of the opportunities offered for individual effort and co-operated service in advancing the interest of our profession.

No State in the Union has its profession more thoroughly and efficiently organized, more effective medical laws, on the statute books, made more progress and advancement in medical education than the medical profession of the State of Georgia. We have the best Medicial Practice Bill, best Medicial laws, best State Board of Health, and I say without fear of contradiction, that the medicial student can obtain as complete and thorough education in the State of Georgia as anywhere in the United States, yes, in the world.

Gentlemen, this has all been accomplished through the Medical Association of Georgia, which is made up of its component parts, units, the County Medicial Societies which is the life and backbone of our Association.

Groups.

The war has taught us that it takes a number of doctors to make a corps, has taught us the importance of grouping ourselves into little coteries, consequently I want to recommend or suggest to all the smaller or smallest County societies who do not already enjoy these advantages, the advantages that all the city counties are enjoying, to organize themselves into groups of twenty to thirty doctors. Amongst them let there be one who is qualified, equipped and willing to do and limit his work to surgery. Let one or more of the remainder select what branch, line or subject he or they would like to specialize on in connection with his general practice, and so on through the different subjects or branches of medicine until every doctor in the Group had specialized. Then let each one make a special study of his branch, take post graduate courses and become an authority on same. In each group you would have a surgeon, anesthetist, nose and throat man, eye and ear man, obstetrician, gynecologist, heart specialist, lung specialist, stomach man, X-Ray, G. U. man, neurologist, pediatrist, therapeutist, internest, pathologist and laboratory man, etc. Each group should establish them a hospital. These groups will benefit the profession in each locality, because they could come to more definite conclusion, diagnosis and treatment. When we wanted council, we could choose the nearest and best specialist for his peculiar case who would always be accessible and give us real help. As it now is, you cannot get specialists from the cities at all times when you need them. These groups would be of great benefit to each community, as they would have at their command at all times the best of service.

Journal Clubs.

Not only should these smaller society Groups, but the County Societies of the large cities, unless they already have them, should organize what is known as **Journal Clubs.** Every doctor must subscribe for and read one or more Journals in order that all the Medical Journals will be subscribed for and read by the members of the society. At the meeting let each doctor report all articles of any interest to the society that were in his Journals since the last meeting. In this manner each doctor will get the benefit of all the Medical Journals while he has to subscribe for and read but one. This is the only way we can get the benefit of all the Journals and without this method our Journals will continue to lie on our desks with the wrappers unbroken for the lack of time to read them.

Midwives.

Since the Vital Statistic Law has been put into operation, it naturally forces upon us the question of midwifery. We cannot ignore this subject because forty per cent. of all births are directed by midwives. Especially is this true in large cities of foreign population and in the South among the colored population. It is not only a state problem of grave importance but a National one, when we consider the unreported births, the needless deaths amongst infants, the needless deaths from puerperal sepsis and the preventable causes of blindness. Our profession is responsible for such large per cent. of deliveries by ignorant, incompetent and uneducated midwives. We are forced to act and there is only one of two courses

to persue, one to enact of secure laws to prevent the practice of midwifery, which would be unwise and impossible. The other course and the correct one, is to educate, instruct and equip them so that there would be no valid reason why the American midwife should not step to the fore front and be the best midwife in the world. Chicago, Baltimore, New York and some other cities have already erected schools for training them. Why should others and each State not do likewise? We have surpassed Europe in many other lines of endeavor, so why should the American woman lag behind in midwifery? The responsibility of the ignorance of the midwife rests upon our shoulders and it behooves us in our representative bodies to devise and execute such constructive means as will make the midwife safe, reliable and competent to answer the needs of the public.

Medical Laws.

There have been more Medical Laws enacted during my administration than any year in the history of the Association. An amendment perfecting our Medical Practice Bill was passed. This was the most needed and essential of all the laws as our Board was operating under the original bill that had been stripped of all its powers by a decision of the Supreme Court of the United States. This amendment gives us a Medicial Practice Bill with teeth in it, a bill that will stand the test of all courts. In this bill we have incorporated a clause making it grounds for revoking license when a doctor is convicted of violating the Harrison Narcotic Law. It also provides with many other things, the requirement of a two years premedical course in a college before you can enter a medical college. We secured increased appropriations for the State Board of Health including special appropriation to enforce and put into operation the Vital Statistical Law. An act preventing prostitution, also an act relating to the prevention and the treatment of veneral diseases.

An act for the prevention of blindness.

An act for the investigation and care of the feeble-minded.

An act for the establishment of sanitoriums for tuberculosis in small cities.

An act placing the tuberculosis sanitarium at Alto in the hands of the State Board of Health instead of the Trustees of this Institution.

An act perfecting the State Anatomical Bill.

For the passage of these laws the profession of the state owes a debt of gratitude to the Committee on Public Policy and Legislation and especially to Drs. C. T. Nolon, J. L. Campbell, J. F. Abercromtie and to our able and distinguished Secretary, Major W. C. Lyle, who was practically in touch with the Committee of the Legislature at all times.

Defeating of the Chiropractic Bill last Summer, due to the work of Dr. W. C. Lyle, was the most important thing accomplished. It means a great benefit to the citizens of the State of Georgia, and I bow my head in sorrow when I think of the creation of a Board of Examiners in optometry and one in Osteophathy, because since the war there is no place for pseudo-scientific-camouflage medical men.

Optometrists.

"Some of optometrists go over the State advertising themselves as doctors and the public does not know they are only glass fitters and cannot be reliable eye sight specialists; they may be good manufacturers of optical goods, but to apply these as a remedy for physical defeats, they have not knowledge concerning the body nor drugs to make reliable examination.

"Optometrists receive diplomas, on short courses, granting them the degree of Doctor of Optometry. Such a diploma and a state license are calculated to confuse the public as to who are reliable consultants for disturbances of vision, a certain percentage of which is due to disease. Unreliable opinions on the eye have often led to neglect, loss of health, loss of sight and the loss of life. Glasses are the optician's only remedy; patients may need glasses, medicine or a surgeon; they usually get glasses. Those who are going over the state advertising themselves as doctors, violating the Medical Practice Bill should be put out of business."

Osteopath.

"When osteopaths began their campaign to secure the right to treat the sick without

having to comply with the educational requirements of medical practice acts, their common claim was they did not use drugs and, therefore, were 'not practicing medicine'. As a consequence they have been classified by governmental agencies and by legislators as limited practitioners and separate from the medical profession. In other words, they have been accepted at their own valuation."

In recent years, however, they have made a change of front. Although in states where they still seek legal recognition they are using the old claim "not practicing medicine," elsewhere we find them seeking registration under the Harrison Narcotic Law so they will be authorized to give the most violent of drugs. Now they have shown great distress because—in accordance with their previously expressed desires—they have not been classed as physicians and therefore, were not granted commission in the medical department of the Army and Navy. Following the declaration of War and the call to arms, Osteopathic Physicians from every part of America, offered their services and demanded that they be placed on equality with us. Surgeon-General Gorgas ruled: "Only physicians who are graduates of well-recognized medical colleges authorized to confer the degree of M. D. are eligible to service and commission in the Medical Department." Being denied this privilege they sought to serve in the Red Cross, but the Red Cross units were recruited from the Medical Reserve Corps, and they were again ruled out. Therefore, the American Osteopathic Association prepared a Bill which if passed, would admit them to service in the United States Army. This bill was introduced in both the Senate and House, but was ruled out or defeated by the influence of Surgeon-General Gorgas.

Gentlemen, this demonstrates to you what the main purpose of these Cults or Sects are, so we must not let any more of them have boards. The Chiropractors are coming up again this year and they must be defeated, because if they are legalized it means that the neuropath, naturpath, herb doctors, indian-doctor, christian science, bonesetters, mental healers and all the irregular and fantastic healers will be before our Legislative Body for recognition. Not only have we got to fight these, but must fight to keep the medical laws we have. In opposing such legislation we must be careful and not too active lest the public and Legislature misconstrue us and think our attempt is to restrict competition, but let us point out to them the fact that it does not affect the practice of medicine but show to them the dangers and menace to the public and educate them to the fact that the science of preserving health and treating disease, whether medical substances are used or not is practicing medicine, that any one engaged in the treatment of disease for the purpose of curing them is a physician and should be required by law to possess the same educational and professional requirements and qualifications of regular physicians, and then they could follow any method of treatment they choose—**enforce the same qualifications alike for all who are legally authorized to treat the sick.**

The object of a medical practice act is to enable the public to discriminate between those who are qualified and those who are not. The violator of the law is prosecuted and punished, not for the technical violation of a license law, but for claiming to be what he is not and for being a fraud and a cheat.

Those who prey on the afflicted under the pretense of having discovered new methods of treatment should be prosecuted for being a fraud and a cheat and obtaining money under false pretence.

Business.

The war has taught us that there comes a time in our lives when we must give up our work and when that time comes we should have compensation laid up sufficient to care for us in our old age, or as we go through life we should lay up or provide for those who are dependent upon us in case we die before old age overtakes us. Now, to do this we should have more business ability than the average doctor usually possess. Do you know that the laity regards us more than we have any idea from a business standpoint —that is they judge our ability by our business ability? They will say if that doctor does not have any more systematic way of practicing medicine than he does in collecting his bills, the keeping of his books and the

paying of his bills he must be a poor doctor. We should keep exact records, books, accounts of the amount of work we do. Send out statements regularly and demand a big per cent. of our monthly work and lay up a certain per cent. for dependents and old age. The reason a doctor knows so little about business, he has never had any business experience or training. He attends school until he enters medical college, remains there until graduation, then take courses in hospitals, and after that he is thrown out in the world to battle with the business side of life without any knowledge or experience of same. The medical schools should give their students some short practical business course along with the study of medicine, teaching him the business side of his profession in order to make his education complete, because there is no other place for him to get this knowledge.

Temperance.

This war has done more for temperance than all the temperance lectures ever given. It has demonstrated that we can get along without liquor, and shows how much better the individual and community are without it. The war has taught us the injurious effects of alcoholic drinks on both the physical and mental well being of our population and that there is no doubt that the most important single factor that we can control in the interest of the public health of the nation is the elimination of alcoholic drinks. Science and education should work as hard to eradicate the curse of strong drink from the world as they do to eradicate diseases, epidemics and plagues.

Religion.

The war has taught us that **no man is wise who has not settled his soul's future,** that we need more religion in our profession, in the practice of medicine—that the love of our profession and Association should come second to nothing but our religion and church. In one single instance we have been taught our helplessness, and our dependence on the Almighty in staying the hand of that dreaded disease, Spanish Influenza, which has exacted a greater toll on the medical profession than any epidemic that is recorded in the history of the world. When we master or conquer one disease others appear that puzzle us as much. We need to look more to the Almighty for wisdom and guidance in the practice of medicine and fighting diseases than we do. We are too prone to depend on man and the means devised by man rather than on him who made us. Remember that the German offensive in those dark days of 1918 was never checked until the 30th day of May was proclaimed a day of humiliation, prayer and fasting by the Chief of the wisest and greatest of all men living and dead, President Woodrow Wilson. Our peace makers in Paris will not make a peace that will be lasting among nations, unless our Divine Ruler is behind it, and it is gratifying to us to know that most, if not all of those, who sit around that historic Peace Table, are seeking the Wisdom and Guidance of the God of Peace.

Department of Medicine.

At our last annual meeting we had a mobilization, or war session. Much has happened since then and today we have a demobilization, reconstructive, yes Victory Session. All of which has been brought about to a great extent by the medical profession, sending more of its members into the military service than any other business or trade in the Country. Of the doctors of the State of Georgia, who volunteered their services, over seven hundred were commissioned into the regular army besides the eight hundred or more who were placed into the Volunteer Medical Service Corps and the four hundred and fifty who served on Examining Boards. I think every one of those were members of our Association. In the United States 35,000 doctors responded to these calls and served in the Army and Navy and 30,000 more gave their time and labor to the Selective Service and Local Boards. These doctors threw away all selfishness, sacrificed their business, home, comforts and even their lives for the benefit of humanity, while the doctors who remained behind worked over time, day and night, looking after the civilian population. But the Government has not given us a place in the Cabinet, a Department of Medicine.

In every war as history shows, there have

been charges and counter charges. In this war there have been charges and criticism of favoritism, charges touching the aviation program, the ship building program, the food administration, war and navy departments and other departments, but there have never been any charges or the slightest criticism against our profession.

One of our Congressmen from New York City, who served as a Major in the war during all our over-sea fighting had this to say of our Medical profession when he returned to his seat in Congress:

"That our base hospitals overseas were perfect, the work performed by the medical department right near the firing lines was wonderful. The work of our medical corps overseas was a revelation and a lesson to the armies of our allies. It is the one branch that could teach and did not require to learn from others. The sanitary work in our camps kept the disease down to an unprecedented low percentage. The best medical men of the country responded to the call, and fortunately each man was put, as far as practicable, to work for which he had specialized. The medical department of our service overseas came out of this war with a 100 per cent. perfect record."

The showing of our mobilization from the standpoint of mortality was twice as good as the record held by any country, the mortality in our army is less than the mortality in civil life of the same number of men of the same age.

The experience, during the war, of this and other countries show how deeply national efficiency is bound up in the health of the people. In this country 34 per cent. of those examined for the draft were rejected on account of physical defects, many of which had their origin in childhood and were of preventable character. Again, Lloyd George made a statement, in a speech delivered at Manchester, that if the health of the English people had been more carefully safeguarded, an additional million of men, unfit for military duty on account of physical defects, might have been placed on the firing lines and the war triumphantly won at a much earlier date."

"A wise physician skilled our wounds to heal is more than armies for the public weal." 1,000,000 men trained and equipped for service cannot move one inch without 5,000 doctors. Yet we have no representative in the cabinet. Our department is of more importance to our country than the war department of the navy department, yet we are not allowed a place in the Cabinet, only an organization under the head of the Treasury. We should demand a place in the Cabinet. In endeavoring to meet the great demands for the health of our Civil population, we must demand and have this Department of Medicine, and while we are creating same, we must see that the Public Health Service is not curtailed because history has always shown that wars were followed by epidemics. The Public Health Service really should be expanded instead of being curtailed. Therefore, the profession of the Country should protest against the 70 per cent. reduction of the funds for the Public Health Service recommended by the Appropriation Committee of the Senate. The medical profession of the United States has been working to establish this Department for fifteen or twenty years or more, and we all owe a debt of gratitude to Senator Owens for his hard work in behalf of this and similar measures, but was lost to the Senate. Let the National Council of Health and Public instructions draft a Constitutional Bill creating a Department of Medicine, and introduce it in the House of Delegates of the A. M. A. Let each County society of the respective State Associations and each individual physician of the County Societies appeal to their respective Congressmen and Senators in connection with their State Associations and then let all these in connection with the American Medical Association demand of them for the public welfare, that such a Department in the Cabinet be created. When we appeal to our Congressmen and Senators in this united manner, they will not turn a deaf ear to us. United, co-operative brotherhood of physicians can bring any legal status to pass. What is it we can not do if we deliver the full strength of our united purpose at one point? Co-operation: Each working with all and all working with each other. Only in this way will we win our battle against low standards, indifferent laws and deadly diseases.

MINUTES OF THE HOUSE OF DELEGATES.

The House of Delegates met at 9:30 A. M., April 16, 1919, and was called to order by the President, Dr. J. W. Palmer, Ailey.

The Secretary read the minutes of the meeting of the Council, April 15th, as follows:

Atlanta, April 15, 1919.

The meeting of the Council was called to order by the Chairman, Dr. Coleman, there were present Drs. Coleman, Elrod, Bailey, Mooney, Allen, Champion, Harvard, McCurry, and Terrell. Officers present, President Palmer, vice-president White, and the secretary, Dr. Lyle.

Report of the secretary-treasurer was read and referred to a Committee consisting of Drs. Champion, Harvard and Mooney.

Moved by Dr. Elrod that council appoint a Committee of three to draft its report to be made to the House of Delegates.

The Committee appointed consisted of Drs. Ellrod, Allen, and H. D. Allen, acting councillor.

On motion, the meeting adjourned.

The secretary stated that this was all the business that had been transacted by the Council.

Dr. Champion reported on behalf of the Committee on Program, stating that the meetings of the Association would be held in the Wesley Memorial church; that the sessions on Thursday would be held at Ft. McPherson, at which time the President's address would be delivered. A luncheon would be served by the military surgeons. In the afternoon there would be a base-ball game. Thursday night there would be a subscription banquet and cabaret at the Capital City Club.

The secretary asked that the program be adopted as printed with the exception of such changes as were found necessary, namely, the paper of Dr. E. G. Jones would be read in the evening on account of having lantern slides, and that the paper of Dr. Seale Harris would take the place of any absent member on Friday morning.

Dr. Coleman moved the adoption of the program with the suggestions and changes as made by the secretary.

Seconded and carried.

On motion, the House of Delegates then adjourned.

Second Meeting of the House of Delegates.

The House of Delegates met at 1:10 P. M., April 17, 1919, in the Red Cross Building at Ft. McPherson and was called to order by President Palmer.

The report of the Committee on Necrology was called for.

Dr. T. J. McArthur stated that he did not know until a few days ago that he had been appointed Chairman of this Committee. He said that the recent epidemic of Influenza had taken a large toll from the membership, but the reports he had so far received did not indicate it was as great as was apprehended. He asked for further time to make a final report, which was granted.

The secretary read the minutes of the Council Meeting, and also the minutes of the previous meeting of the House of Delegates.

He also submitted his report as Secretary-Treasurer, as follows:

Gentlemen:

In submitting this my Ninth annual report, I fell it unnecessary to more than call to your attention, the condition of the medical profession in Georgia. Like all organizations, we are badly demoralized in consequence of the war. It would be strange if such conditions did not exist. We especially should feel proud that we have been able to "carry on".

The heavy demands on our profession by the War Department, has necessarily crippled us. Our state has furnished about Seven-hundred and fifty surgeons, and the Selective Service Boards have used upproximately Four Hundred and Fifty. We as members of this Association have no cause to be ashamed of our record, the accomplishment of which has been largely due to this organization.

We have suffered greatly as a result of more than 75 per cent. of our local secretaries being in uniform. The secretary, as a rule, being a young man, this is easily understood, but in consequence, many members have neglected renewing their membership, for the simple reason that no one asked for

their dues. The Influenza epidemic also has caused the overworked doctor to neglect many things he would otherwise have attended to.

The war has not been wholly an unmixed evil. Many men have had opportunities not otherwise available. The experience has been of great value. They will be better and more painstaking doctors in consequence. The effect has been broadening and the results are already apparent. A spirit of brotherhood exists such as I have never before observed. This is auspicious and argues well for our organization.

While our membership is only 1,025 at this time, I confidently believe that with the assistance of our officers and members, it will be increased to approximately the usual number during the year.

I feel that I should bring to your attention, a matter, that doubtless you have already realized—that is the high cost of everything. To carry on the work of the Association, even in the most economical and unsatisfactory way costs about twice as much as three year ago. I have placed the publication of the Journal in the hands of very unsatisfactory printers in order to curtail expenses. In consequence you have not received the issue containing the official program on time, even though it was definitely promised on the Third of the month. The work entailed is vastly greater and is wholly unsatisfactory. I would be glad to supply you with a Journal of which you would not be ashamed, but under present conditions it is impossible to do so.

Everything has virtually doubled in price. I presume most of the members have increased their professional fees, if not they should do so at once. Our dues remain the same as they were twenty-five years ago, and while we can hold together, yet I feel that you should seriously consider the Amendment permitting an increase. If not, I fear the Medical Defense feature of our Association, will have to be withdrawn. Certainly you will get infinitely better results for the Association and its members.

The financial condition of the Association, as of April 13th, is as follows:

Balance on hand April 15, 1918	$2,724.56
Received since that date	5,019.79
Total	$7,744.35
Expenditures as per Vouchers attached	$5,005.03
Balance on hand this date. (April 13, 1919)	2,740.32
Total	$7,744.35

Vouchers.

(Merchants Bank)

500.	Phoenix Printing Co.	$600.00
501.	So. Bell T. & T. Co.	5.60
502.	Postage	150.00
503.	Phoenix Printing Co.	500.00
504.	Miss Dillan (Reporter)	155.98
505.	St. Louis Button Co. (Badges)	22.15
506.	W. C. Lyle (On Salary)	150.00
507.	Postage	3.00
508.	W. C. Lyle (On Salary)	300.00
509.	Stevens Eng. Co. (Pres. Sta.)	30.30
510.	C. MacKenzie (Med. Prac. Bill)	12.00
511.	L. J. Henry (Printing)	1.00
512.	Phoenix Printing Co.	500.00
513.	W. C. Lyle (On Salary)	300.00

(Third Nat. Bank).

1.	Mass. Bond Co. (Bond)	5.00
2.	Addressograph Co. (Repairs)	45.98
3.	Neb. Med. Jour. (Exchange)	1.00
4.	Mailing Deposit & Stamps	35.00
5.	Amer. Med. Assn. (Directory)	8.00
6.	Cap. Eng. Co. (Plates)	6.06
7.	Postage	15.00
8.	Postage	6.00
9.	Underwood Typ. Co. (Repairs)	.85
10.	Wrigley Eng. Co. (Plates)	26.61
11.	Stamped Envelopes	50.00
12.	Printing Vouches	3.00
13.	A. D. Rumanes (Printing)	4.00
14.	Publishers Press	500.00
15.	Phoenix Ptg. Co.	500.00
16.	Byrd Printing Co.	36.00
17.	Postage	10.00
18.	Bayless Of. Equip. Co. (Repairs)	1.50
19.	S. R. Roberts (Delegate)	100.00
20.	W. C. Lyle (Bal. on Salary)	1,050.00
21.	W. C. Lyle (Postage)	5.00
	Total	$5,004.03

Owing to delay in printing the Journal there is an outstanding indebtedness for

Three issues, as I have refused to pay for same until the issues came out promptly. This is easily ofset by the ammount due the Journal from advertisers, to whom bills could not be rendered at end of last quarter, on account of this delay.

Respectfully submitted,
W. C. LYLE, Sec.-Treas.

The Auditing Committee for the Council submitted the following report:

We, the Committee appointed to audit the Treasurer's accounts, have examined same and find them correct.

W. L. Champion,
A. J. Mooney,
V. O. Harvard.

The Committee appointed to report on conditions of the Association submitted the following:

The Council desires the Association to know why the Journal has not been published on time, and why it has not been larger and of better quality than it has been of late. This is due to the fact that your Officers have deemed it to be the safest and wisest policy to conserve the finances of the Association until War conditions were over, and to the further fact that your Secretary-Treasurer has changed his residence which necessitated a change of printers.

It is the purpose of the Council to increase the size and quality of the Journal in the near future as far as our financial resources will permit, and to see that it is published and delivered on time in the future.

Respectfully submitted,
J. O. Elrod, Chairman,
L. C. Allen,
H. D. Allen.

It was moved and seconded that the minutes of the Council and of the House of Delegates be adopted as read. Carried.

The Secretary called attention to the following amendment: To amend Article VIII to read: "First Wednesday in April instead of the third Wednesday in April."

Dr. Coleman moved to amend that the association meet hereafter the first Wednesday in May instead of the first Wednesday in April.

The amendment was seconded and carried.

The Secretary called attention to an amendment to Article X of the Constitution which states that "the amount of the assessment for dues shall not exceed $5.00 per capita per annum".

With the increased cost of all services necessary to the association, such as rentals, clerical assistance, stationery, printing, postage, war taxes, etc., with the material reduction in income consequent upon the entrance into military service of so many of the members, he felt that the association should consider the advisability of permitting an increase of the annual dues if the occasion should arise, but at present he did not think it was neeessary to raise the dues to $5.00 or even $4.00.

Dr. George R. White moved that this amendment which contemplates raising the dues be laid on the table until the next annual meeting. Seconded and carried.

On motion, the House of Delegates then adjourned.

MEDICAL ASSOCIATION OF GEORGIA.

Minutes of the Seventieth Annual Session Held at Atlanta, April 16, 17, and 18, 1919.

April 16—First Day—Morning Session.

The association met at the Wesley Memorial Church and was called to order at 10:30 A. M., by the President, Dr. J. W. Palmer, Ailey.

Rev. Ashby Jones, Atlanta, delivered the following invocation.

Invocation by Mr. Jones.

Oh, God, our heavenly Father, Thou who art the source of all truth and of wisdom and of righteousness, Thy servants would not begin their deliberations and look to the great service to humanity without looking to Thee, the source of truth, inspiration and wisdom. Thou who art indeed the Great Physician of the human bodies and human souls, let Thy spirit take possession of these Thy servants this morning. Grant that they may yield themselves and be sensitive revelation of Thy truth; that in searching the laws of life let them know that they are Thy laws and they are revealed unto those who

are willing to translate them into loving and unselfish service. We pray above all things that these men may be unselfish; that all their learning and all their experience may be placed at the disposal of humanity, and that no one selfish motive may soil their service.

We thank Thee for all they have done in the past, for every comfort and for every infant they have brought to life, for their self-sacrificing research and their untiring service. We pray that that that which has been done in the past may be full of promise and a prophesy of a still larger service that they may render in the future. Be Thou present in every session of this association. Inspire them, guide and direct them, so that all their deliberations may redound to the honor and glory of Thy name. All this we ask for Jesus sake. Amen.

Address of Welcome on Behalf of the City.

Hon. James L. Key, Mayor of Atlanta, was introduced and delivered the following address of welcome.

Mr. President and Members of the Medical Association of Georgia: Atlanta feels itself honored here this morning by the presence of this distinguished body of scientific men. We are in the habit of welcoming the doctor. We are always glad to have him come when we need him, and you gentlemen also we are glad to have, even though we feel no special need for you on this particular occasion.

The doctor appeals to me a little more closely than to the ordinary man because I am the son of a country doctor. My father is still living; he is eighty-five years of age, although he does not any longer follow the profession of medicine. I have learned a great deal about doctors from him.

My father graduated from the first class of the school which afterwards became the Atlanta School of Medicine, and afterwards went to Jefferson Medical College in Philadelphia, where the southern boys at that time had their medical schooling, and he started out to become a doctor. His father gave him two negroes; he got married in the meantime (laughter), and my mother's father gave him two negroes, and they started out in life with a portfolio of medicine and four negroes, and pretty soon after that the war came along and took away the negroes and they never had any property before than or since then. That closed them up on that proposition.

My father was a doctor during the war, and as you doubtless know they were very limited in their materia medica or in the medicines they used. They finally got to the point where they had practically nothing in this country except turpentine and emulsions of turpentine with which they treated almost everything. My father treated people without medicine and raised a family without medicine. I did not take any medicine. It was his belief that doctors should not use much medicine, and you may have learned that yourselves. But there are a great many things about the doctors that are very fine. This can be said about the doctors: As a body of men, as a profession, and as individual citizens of the community, they always put the weight of their influence and give the benefit of their learning and of their practices for the purpose of preventing disease, preventing sickness and conserving the health of the community. They absolutely make war on the things that make their business. There is no other body of citizens in the world that are more conspicuous, that are more entitled to the thanks of the world than the doctors of the country, on account of the unselfish devotion which they give for the benefit of the world.

Doctors have been valuable in general conservation measures. During this war the doctors have rendered invaluable services to the soldiers as has been illustrated in a great many ways. We have learned and they have learned that the ravages of a great many diseases can be checked, and they will be checked and must be checked simply as a general conservation measure. For instance, take the matter of typhoid fever. We might say it has been eliminated from the world during this war. I heard my father say that they lost more soldiers from disease than from bullets and from measles and typhoid fever than all put together. Typhoid fever has been practically eliminated.

Aseptic surgery has reached a point of great refinement, but in the course of this

war, look at the tremendous progress that antiseptic surgery has made in the treament of infected wounds. It has marked a distinct advance in the profession and has done a great deal to conserve mankind and to negative the awful ravages of war. We find it so in our community here from the efforts the doctors have made. We have a lot of contagious diseases here all the time; we have a number of cases of smallpox at this time. To show the value of doctors to the world, I want to say that there has not been a single well defined case of smallpox in Atlanta in seventeen years in cases where the people at any time in their lives had been successfully vaccinated, which vindicates thoroughly the position of the medical profession on the subject of vaccination and has put the world at a point where the ravages of that disease are necessarily checked, where the people are wise enough and diligent enough to take advantage of the means which the medical profession has put in their hands.

Now, gentlemen, I hope your stay will be very pleasant. We are willing to do anything in the world we can for you, but there are some things we cannot do for you, but we have to take those things as best we can. For instance, you will find our town very dry (laughter), but the chances are we will find we can get along better without liquor.

I never heard of the town of Ailey until this morning, and I have been informed that your President is from that town. You cannot make much out of a town unless there are certain activities and interests in it on part of the doctors. You must have doctors in a town to make it a success both in a commercial and professional way. Your President, I undestand, is one of the most successful and active practitioners as well as citizens in the town of Ailey.

I want to confide to you this morning this: I do not know how it is over the state, but the best politicians we have got in Atlanta are the doctors. I am not a politician myself. (Laughter). I am rather what you would call a sort of political extra, but when a man finds himself suspended in air, as it were, where he has to hang there waiting for the public to express itself one way or the other in his case, he cannot very well be a politician. He has to wait and see what the people will do for him. He may have a great many friends who are politicians, and I have found that to be true among the doctors, and I certainly thank them for their interest in my behalf.

Gentlemen, if there is anything we can do for you while you are here, let us know, and we will be glad to do it. (Applause).

Address of Welcome on Behalf of the Local Profession by Dr. George M. Niles, Atlanta.

Mr. President and Members of the Medical Association of Georgia: It is with much gratification that I am permitted to act as spokesman for the Fulton County Medical Society and extend to you a hearty welcome during your stay in our busy city.

We have had in the recent past within our confines organizations representing nearly every form of human endeavor—religious, civic, industrial, economic, and scientific, and I feel sure that no body is more welcome to this city than the members of this association representing as they do the flower of the medical profession in our state.

In the opera "Red Mill," a venerable old sport comes out and sings the song entitled "Every Day Is Lady's Day With Me," and in Atlanta we can almost say that every week is convention week with us, for scarcely a week rolls around that we do not enjoy entertaining some body of men who come here to enjoy themselves and mingle with our citizens to their pleasure and to our pleasure and profit also.

Gentlemen, since we last met there have been stirring and strenuous times practically all over the world. Many of you have been through experiences and have undergone vicissitudes of various sorts that time will not efface from your memory. The Fulton County Medical Society being the largest organization of its kind in the state was naturally expected to do its bit when the call came for volunteers and when hostilities were so rampant in every quarter. It may interest you to know, and I think you should know, out of the membership of the Fulton County Medical Society fully three-fourths volunteered to serve under Uncle Sam. Of that number, a little over one-half were ac-

cepted and served under the colors either in this country or abroad. Of the remaining less than one-fourth, practically every one of those rendered some form of service either as a member of the Selective or Advisory Board, or in some other way helping out our common cause.

Now that the war is over and happily ended, most of them are back and are being received with open arms. We are proud of their services; we are proud of the way in which they acquitted themselves, but, gentlemen, that is now going into history and history will tell the story. History, although a slow narrator, is always a correct one. A new era is opening up upon us which we must of necessity face.

A medical man of a rather retrospective turn of mind recently wrote the following lines:

"I have a clock of silver,
A marble clock,
And a clock with a cuckoo gay,
But the moments vanish flock by flock,
And masses of work my labors mock,
For alas, I have never found a clock,
That ticks the other way—
Never a single clock,
That ticks towards yesterday".

And gentlemen, while we have seen and revere the noble performances and the honorable achievements of the past, it is not meet that we should rest on post laurels, however worthily they are won, but we should be up and doing to meet the greater problems that are now facing us clearly. We have individual problems, we have problems of sanitation, of educating the masses in regard to certain problems and getting them out of the slough of ignorance, for it has been said that ignorance is the father and mother of disease, and the medical profession more than any other single organized body will be called upon to meet these issues squarely face to face and meet them without flinching. To that end we gather here and there from year to year to renew old acquaintances and to make new friendships, to join in these fraternal greetings that we so pleasant to us all, and above all, to partake of a certain amount of mental pabulum which is necessary for our scientific and social refreshments.

So, gentlemen, you of course, are our honored guests, and to that end I again trust that your stay will not only be one of real enjoyment but of mental and scientific profit as well. Therefore, again in the name of the Fulton County Medical Society and the local profession I extend to you a most hearty and cordial welcome. (Applause).

Response to the Addresses of Welcome by Dr. J. G. Dean, of Dawson.

Mr. President and Members of the Medical Association of Georgia: I regret that I am not endowed with a sufficient number of words and eloquence of diction that will enable me to properly reqply to the addresses we have listened to.

My friends, we meet today under different circumstances than those that surrounded us last year when we met in a beautiful city by the sea. At that time, this great world was torn virtually asunder by the fiendish Hun. At that time, we could not any of us look forward with any degree of assurance that many of our number would not before this auspicious occasion have become marks for the devilish work of the Hun, but thanks to the great God of this wonderful universe we are safe and the Hun is today a suppliant at the altar of civilization. For this happy ending of that most unfortunate and uncalled for war we are all greatly thankful.

Now, Mr. Mayor, it is unnecessary for me to say that we are glad to be with you. Every doctor in Georgia is always glad to have an excuse to come to Atlanta. There is something in the air, something in the name, something in what happens in Atlanta that somehow or other draws us with a single heart this way whenever we can make it convenient to come.

We are glad to be with you. There was a time when this place was known by a most common name, but soon it was destined to plan here a great city, and evidently some poet set himself to thinking as to what name to give to this great city. So he delved into ancient Grecian or Athenian history and found some mythical island in the south Mediterrarean Sea that had only served as a harbor, and the name of that island was

Atlantus, and so the name of Atlanta was given to this city. The result has been that this greatest of all cities of this greatest of all states and of this greatest of all nations, the greatest nation in this universe, has now become one of which we all delight to speak and to which we all delight to come. (Applause).

Now, my friends, I need not multiply words. I am sure I voice the sentiments of every doctor here when I say we have listened with pleasure, with delightful anticipation to the beautiful words of welcome extended to us by the worthy mayor of Atlanta, and no less to the eloquent words of our classical and silver tongued friend, Dr. Niles. For the things they have said and the welcome they have extended to us, we thank them one and all. (Applause).

THE PRESIDENT: We will have a report of the House of Delegates.

THE SECRETARY: The House of Delegates convened at 9:30 A. M. in an adjoining room. The minutes have not been written up. The report of the Committee on Program and the Committee on Arrangements were received by the House of Delegates and adopted with certain changes which I wish to announce. The members having papers to be illustrated by lantern slides finding that it would be a great deal of trouble to darken this particular room decided that it would be better to present these papers tomorrow afternoon in the Red Cross Hall at Fort McPherson.

THE PRESIDENT: We will now have a report from the Chairman of the Committee of Arrangements, Dr. Champion.

DR. W. L. CHAMPION: The program as outlined gives you an idea as to the entertainment of the association. As you know, the only entertainment that can be given is a subscription banquet.

The sessions of the association will be held in this hall, morning and afternoon.

Dr. J. G. Earnest, of Atlanta, asked as to his status of membership in the association.

Dr. F. W. McRae, Atlanta, stated that it was his recollection that Dr. Earnest had been made an honorary member of the association, hoping that that action would be followed up by making him a life member. Accordingly, he moved that the Medical Association of Georgia honor itself by honoring Dr. Earnest with a life membership.

Motion was seconded by Dr. Champion and carried.

The reading of papers was then proceeded with.

Dr. W. F. Westmoreland, Atlanta, read a paper on "Acidosis in Medicine and Surgery", which was discussed by Drs. Graham, Mulherin, Nicholson, Clark, Thrash, and in closing by the essayist.

On motion of Dr. J. G. Dean, visiting doctors and medical representatives of the Army and Navy were accorded the privileges of the floor.

Dr. W. P. Harbin, Rome, read a paper entitled "Blood Transfusion," which was discussed by Drs. Thrash, Bunce, Fuller and in closing by the essayist.

Dr. R. A. Bartholomew, Atlanta, followed with a paper entitled "Aspiration of the Pouch of Douglas As An Aid in Differentiating Atypical Cases of Ectopic Pregnancy and Pyosalpinx". (No discussion).

Dr. R. R. Daly, Atlanta, read a paper on "Tonsillar Operations in the Army".

Dr. A. G. Fort, Atlanta, read a paper entitled "Some Remarks About Removal of Tonsils".

These two papers were discussed together by Drs. Lyle, Terrell, and in closing by the essayists.

On motion, the association adjourned until 2:30 P. M.

First Day—Afternoon Session.

The association reassembled at 2:30 P. M. and was called to order by the President.

Dr. O. L. Miller, Atlanta, read a paper entitled "The Use of the Thomas Splint in the Treatment of Knee Injuries in Transportation and Treatment of Fractures of the Femur". (No discussion).

Dr. Garnett W. Quillian, Atlanta, read a paper entitled "Operative Treatment of Retroversion of the Uterus; Report of 185 Cases". (No discussion).

Dr. O. D. Hall, Atlanta, followed with a paper entitled "Radium Therapy for Uterine Hemorrhages; Report of Cases". This paper was discussed by Dr. Allen and discussion closed by the essayist.

Dr. George M. Niles, Atlanta, read a paper

entitled "What Constitutes An X-Ray Examination".

Discussed by Drs. Cole, Clark, and in closing by the essayist.

Dr. Stewart R. Roberts, Atlanta, read a paper entitled "The Management of A Case of Diabetes", which was discussed by Dr. Gaines, and in closing by the essayist.

Dr. W. B. Emery, Atlanta, read a paper entitled "Rules and Suggestions for Treatment of Syphilis as Used at College Clinic".

Discussed by Dr. Bowdoin, and in closing by the essayist.

Dr. John Funke, Atlanta, read a paper entitled "The Value of Blood Sugar Estimation in Cases of Diabetes Mellitus".

This paper was discussed by Dr. Mosenthal.

Dr. Joseph J. Bowdoin, United States Public Health Service, Atlanta, read a paper entitled "What We Have Done in Georgia Toward the Control of Venereal Diseases", which was discussed by Drs. Emery, Allen, McRae, and in closing by the essayist.

At the conclusion of the discussion, Dr. L. C. Allen made the following motion: I would like to move that this association go on record as heartily approving of the work of the State Board of Health and the United States Public Health Service and that we pledge our support and co-operation in the work of preventing the spread of venereal diseases in our state.

Motion seconded and carried unanimously.

On motion, the association adjourned until 8 P. M.

First Day—Evening Session.

The association reassembled at 8 P. M. and was called to order by President Palmer, after which Dr. M. M. McCord, of Rome, took the chair and presided over the Public Health Section.

Papers were read as follows:

Dr. W. A. Davis, Atlanta, read a paper on "The Vital Statistics Law in Georgia".

This paper was discussed by Dr. Schreiber.

Dr. W. F. Haygood, Atlanta, followed with a paper entitled "Should Smallpox Vaccination Be Made Compulsory Before Allowing A Child to Enter A Public School in Georgia?"

The paper was discussed by Drs. Slack, Schreiber, Heflin, after which the discussion was closed by the essayist.

Dr. M. M. McCord, Rome, read a paper entitled "The Medical Examination of School Children", which was discussed by Drs. Blackwelder, Allen, Funkhouser, Visanski, Graham, Schreiber, and in closing by the essayist.

Captain G. R. Moffit, Fort McPherson, read a paper entitled "Vaccine in the Prevention of Influenza-Pneumonia". (No discussion).

Dr. T. F. Sellers, Atlanta, read a paper entitled "Incidence of Anthrax in This State Recently". (No discussion).

Dr. B. D. Blackwelder, LaGrange, read a paper entitled "Sanitary Privies, Types, Their Value in Preventing Soil Pollution Disease".

Discussed by Drs. Haygood, and in closing by the essayist.

Dr. Carl C. Aven, Chief of Clinic, Emory University Medical School, Atlanta, read a paper entitled "Social and Public Health Nursing".

The Public Health Section elected the following officers for 1920: Chairman, Dr. Joseph P. Bowdoin, United States Public Health Service, Atlanta; Secretary, Dr. W. F. Haygood, Atlanta.

On motion, the association adjourned to meet at Fort McPherson Thursday morning.

April 17—Second Day—Morning Session.

The association met in the Red Cross Hall at Fort McPherson and was called to order at 10 A. M. by President Palmer.

Colonel T. S. Bratton, welcomed the members of the association to Fort McPherson, and said he hoped that the members on returning to their respective homes would tell the people how diligently and how well their sick and wounded boys were being cared for at the Fort.

The association then took a recess until 12 A. M.

On reconvening the First Vice-President, Dr. George R. White, Savannah, took the chair and President Palmer delivered his address.

Dr. F. W. McRae moved that the address of the President be referred to the House of Delegates for such recommendations as might be considered necessary and report

same to the general meeting of the association.

Seconded and carried.

Dr. E. G. Jones, Atlanta, presented the following resolution:

WHEREAS, a large number of the members of the Medical Association of Georgia patriotically entered the military or naval service of the country, and have served faithfully and efficiently in the discharge of responsible and difficult duties during the great war; therefore, be it

RESOLVED, That we take this opportunity to acknowledge our obligations to every member of this association who has so served, and to make this grateful record of our appreciation for the unselfish spirit which has thus vindicated the highest traditions of our profession. Be it further

RESOLVED, That the Secretary be requested to compile a correct list of all our fellow members who now hold, or have lately held, commissions in the United States Army and Navy, and that said list be attached to this resolution and together therewith be made a part of the permanent record of this association.

In moving the adoption of the resolution Dr. Jones said: We are especially indebted to those members of the profession who entered the Army and Navy services, and I am sure that this is an opportunity for us to acknowledge our obligations to them. Certainly, it is unnecessary to more than intimate the propriety of such action when I remind you gentlemen of the things you already know. These men entered the services of the Army and Navy to the great curtailment, if not abolition of their incomes and a total disruption of their plans.

One of the most attractive features of our profession is that, except so far as we are related to sick people, we may largely do as we please. Our income and standing in society are not dependent upon the good or ill will or judgment of any one person or set of persons. Indeed, when one thinks of it, so far as being bossed by anybody except our wives, we in civil practice enjoy an unusual degree of immunity, and yet we have seen scores of the members of this association during the last two years become accustomed to taking orders from almost anybody, and with a degree of grace which has added to the good impression which the Army has created. On the other hand, one of the drawbacks of our profession is that progressive success for the physician depends upon the continuity of his service in the community. There are not many physicians in the community who can keep up that continuity of service without seriously putting in jeopardy their hopes of local careers, yet we have seen physicians deliberately, gladly putting themselves in jeopardy for the good of mankind and the government. As these gentlemen return to civil life, are they coming back with empty ideas for the solving of the problems of public health and of other measures? Not at all. Every one of these men who has come back from the Army is much more resourceful than he was when he entered the Army. What he has done and what he has not done are matters which can be investigated by us.

These gentlemen in representing us have invested themselves with a degree of respectability and a degree of self-respect that excites our envy, and this is an opportunity for us to make appropriate recognition of their unselfish services—an opportunity which would be a discredit to us to neglect. (Applause).

The resolution was unanimously adopted.

On motion, the association adjourned until 3 P. M.

Second Day—Afternoon Session.

After a military luncheon, which was served to the members and guests, the association reconvened at 3 P. M. and was called to order by the President.

The first speaker of the afternoon being Dr. George W. Crile, of Cleveland, Ohio, the President asked Dr. F. W. McRae, Atlanta, to introduce him.

Dr. McRae in introducing Dr. Crile said: I do not know of anything that gives me greater pleasure—and I esteem it a great honor—than to introduce Dr. George W. Crile to this body. To introduce him to any medical audience in the world is a work of supererogation because his name is a household word. Any one who has kept pace with medicine or surgery could not have failed to know something of the work which Dr.

Crile has done on surgical shock, on acidosis, direct transfusion of blood, anesthesia, and in other lines of medical and surgical activities.

Crile is a great scientist, a great medical man, and if we were to eliminate from modern surgery what Crile has given to modern surgery and to medicine, it would leave a very great blank and leave us terribly handicapped.

It gives me the greatest pleasure, therefore, to introduce to you Crile, the man, the typical American citizen, the devoted husband and father, genial host, faithful friend, loyal comrade, one of the world's greatest surgeons; great in peace, great in war, and greatest in his love of his fellows—Dr. George W. Crile, of Cleveland, Ohio. (Loud applause).

Dr. Crile then presented a paper on "Abdominal Surgery", which was illustrated by slides.

Lieutenant-Colonel W. W. Babcock, Fort McPherson, read a paper on "Notes on Surgery of the Peripheral Nerves".

Dr. William D. Haggard, Nashville, Tennessee, spoke on "Some of the Surgical Lessons of the War", his remarks being illustrated by motion pictures.

A vote of thanks was extended to Drs. Crile, Babcock and Haggard for their interesting contributions.

On motion, the association adjourned until 9 A. M. Friday, April 18.

April 18—Third Day—Morning Session.

The association met at 9:15 A. M. and was called to order by President Palmer.

The Secretary read the reports of the Council and of the proceedings of the House of Delegates.

Dr. E. T. Coleman, Graymont, moved the adoption of the report as read.

Seconded and carried.

Dr. T. J. McArthur, Cordele, presented the report of the Committee on Necrology, as follows:

Report of Committee on Necrology.

Mr. President and Gentlemen of the Medical Association of Georgia:

On account of the heavy toll taken from the ranks of our profession, by the most terrible epidemic that has ever visited the world, your committee on Necrology has to report that there has been more deaths during the last associational year than of any other year in the history of our organization. Many of our most loved and honored members have answered to the last roll call, and their familiar faces will no more be seen at our annual Convocations, and though we shall never again feel their fraternal handshake and shall never be favored with their advice and counsel anymore, we shall ever cherish their blessed memory and would to well to exemplify their many excellent traits of character in our own lives. May they have a peaceful rest from their labors.

The following is a list of deaths occurring our last meeting:

W. R. Winchester, Macon; Judson A. Butts, Brunswick; J. D. Chason, Bainbridge; G. C. Williford, Lenox; F. M. Burkhalter, Ray City; J. G. DeVane, Adel; E. C. Crumbly, Jessup; A. B. Mason, Waycross; J. F. Hall, Dayton; B. W. Lockhart, Clermont; Giles Hatchcock, Lula; E. L. Griffin, Atlanta; R. E. Hinman, Atlanta; G. P. Hurst, Monroe; James M. Meadows, Vidallia; J. W. Brinson, Wrightsville, J. T. Rogers, Savannah; M. F. Moseley, Oakpark; W. W. Carr, Adairsville; D. B. Mays, Americus; W. H. Elliot, Savannah; W. H. Herrington, Vidallia; J. W. Duncan, Atlanta; B. P. Bradley, Tolsone; Cogdell, Cohutta; W. P. Horden, Commerce; G. P. Folks, Waycross, E. P. Little, Marion; H. G. Fussell, Camilla.

In addition to these men from the ranks of our profession, the hand of death has removed from us two of our most beloved ex-presidents, Dr. W. B. Hardman, Commerce, and Dr. Howard J. Williams, Macon.

THOS. J. McARTHUR,
Chairman, Committee on Necrology.

April 18, 1919.

Dr. William B. Hardman, an ex-president of the Medical Association of Georgia, died at his home in Commerce, Georgia, of Influenza, complicated with secondary double Lobar Pneumonia and initial heart lesion, in October, 1918. Dr. Hardman was honored and beloved by the members of this Association, and was held in esteem as one of the leading medical men of the state. He

was President of the Board of Trustees of Mercer University, and was ever foremost in standing for the best things in his community, in his practice, in business and in education. As a pleasing speaker, he had but few equals in the profession.

Be it therefore resolved:

1st. That this Association has lost a beloved and honored member, who was ever faithful to the Medical Association of Georgia.

2nd. That his community has lost one of its most honored citizens.

3rd. That the sympathy of this Association be extended to the family of Dr. Hardman.

4th. That a copy of these resolutions be sent to the family and spread upon the minutes of this Association.

April 18, 1919.

Dr. John W. Duncan, Atlanta, Georgia, passed away on March 11, 1918, of an acute attack of colitis. Dr. Duncan was born September 29, 1842, was graduated from the Atlanta Medical College in 1868, and practised medicine continuously for 50 years. He was long a member of this Association, and was a regular attendant upon his Medical Association to the time of his death, at the age of 76 years.

Be it resolved by this Association:

1st. That the life of Dr. Duncan was an example to us all in character, in faithfulness, and in devotion to his patients and to his profession.

2nd. That his faithfulness to his Church, and his example as a man of character in the community, as an honored practitioner of medicine for 50 years is a splendid example of a well spent life.

3rd. That a copy of these resolutions be spread upon the minutes of this Association, transmitted to the family, and printed in the Journal of the Association.

Dr. J. G. DEAN, Dawson, offered the following resolution:

Recognizing the unusual and delightful entertainment arranged for this association, as well as the special clinical demonstrations furnished on yesterday at Fort McPherson, and feeling that an expression of our gratitude should go out to those responsible for the same, be it, therefore

RESOLVED, That the heartfelt thanks of the association are hereby tendered to Colonel T. S. Bratton and other officers of General Hospital No. 6 for the pleasures of that occasion.

Dr. J. O. Elrod, Forsyth, moved the adoption of the resolution.

Motion seconded and carried.

Dr. J. L. Campbell, Atlanta, presented the following report as Chairman of the Committee for the Study and Control of Cancer:

Report of the Committee of the Medical Association of Georgia, for the Study and Control of Cancer.

Atlanta, Ga., April 17, 1919.

Mr. President and Gentlemen:—

Your Committee, authorized at the meeting of the Association last year begs to make the following report and recommendation:

Owing to the increased work necessary by the absence of so many physicians in the army service and the epidemic of influenza, the active work of the Committee was much delayed.

After consulting with other members, the Chairman undertook to have a public meeting in Atlanta, Tuesday evening, April 15th.

Through the co-operation of the American Society for the Control of Cancer, Doctors Frederick L. Hoffman and Francis Carter Wood accepted invitations to make public addresses here.

The Fulton County Medical Society and the Atlanta Woman's Club also co-operated in making the meeting a success and helping to secure a full attendance.

The movement was advertised by a circular letter to all the Federated Womens Clubs in the state ontiside the fifth district, requesting them to send a representative to attend the lecture and request the local Doctor to also attend, the Parent Teacher's Association of Atlanta and the Insurance Companies doing business here. The Atlanta Registered Nurses Club gave valuable aid and the pupil nurses of all the training schools attended.

The Press was very kind; the Atlanta Journal gave us extensive space and the Constitution wrote a leading editorial.

There were about 1,000 present and seemed to be well pleased with the meeting.

We recommend that the Campaign be continued by public addresses in the various county societies which can be arranged by the district members of the commission, or by direct communication with the American Society for the Control of Cancer.

Dr. Abercrombie has kindly offered space in the Bulletin of the Board of Health for an article each month which we hope will be accepted.

J. L. CAMPBELL, Chairman.

Dr. Coleman moved that the report of the committee be adopted as presented, and that the committee be continued.

Motion seconded by Dr. Slack and carried.

Dr. V. V. Anderson, Atlanta, read a paper entitled "Georgia's Policy Towards Her Feeble-Minded", which was discussed by Drs. Funkhouser, Allen, Stiles, Hardman, and in closing by the essayist.

Dr. F. W. McRae moved that the paper of Dr. Anderson be referred to the House of Delegates with the request that the House make recommendations to the Committee on Public Policy and Legislation to be presented to the coming meeting of the State Legislature.

Seconded and carried.

Dr. F. W. McRae made the following motion: I move, Mr. President, that this association express its appreciation of the willingness of its members to serve and for the patriotim they displayed, and also to express our thanks and appreciation to the members of the Volunteer Medical Service Corps who over their own signatures agreed to serve whenever and wherever their country called them.

Motion seconded by Dr. Coleman.

Dr. McRae in speaking to the motion said: I wish to say that in doing this work the Committee of the Medical Section of the Council on National Defense was simply an intermediary between the War Department and the people of the State of Georgia. The work was done voluntarily by these men. Members of the committee from all over the state came to Atlanta, paid their own expenses, paid the expenses of the committee work, which were large, and gave their time whenever necessary. There was never a meeting of the committee called when there was not a quorum present. Men came from the extremes of the state. It would not be right for us to fail to express our appreciation to Major Lyle who, from the beginning, did an immense amount of work here. Dr. Abercrombie, Secretary of the State Board of Health at all times was ready to help in every way. Dr. Louis Sage Hardin, the first chairman and executive officer of this body, gave his time, money and work as secretary and displayed his unfailing interest in the work. There was never a minute he was not ready to respond. I would like to mention the names of other men who came here and did this work, because these men were willing to serve. It was my pleasure to go to Washington and go over the list of men. I found there were some men with eight or ten children willing to go into the Army and do what they could. A man with one arm and a rupture on both sides was willing to serve. He said, "Here is my condition: I have put my cards on the table, but if my country needs me at any time I am ready to do what I can". (Applause). Le us think of Dean, of Dawson; Bloomfield, of Athens; Clark, of Macon; Doughty, of Augusta, in this connection. There is a list of nine hundred and fifty odd of these men who went into the service and were willing to go and work wherever needed. It is a thing for us to feel proud of, and I would like these names to be spread on the minutes with those who went into the service, thereby giving credit wherever it is due. (Applause).

The motion was then put and unanimously carried.

Dr. Frank K. Boland, Atlanta, read a paper entitled "Surgery In A Base Hospital in France".

At the conclusion of this paper, Dr. F. W. McRae made the following motion; I move that the unanimous expression of appreciation of this association be extended to the doctors, nurses, and the corps men of the Emory University Unit for the work they did for us.

Motion seconded by Dr. Coleman and carried.

Dr. W. F. Shallenberger, Atlanta, read a paper on "Ureteral Stricture in Women".

President Palmer suggested that in view of the numbers of papers to be read that the discussion on them be dispensed with.

Accordingly, Dr. Coleman made such a motion, which was seconded and carried.

Colonel Charles Wardell Stiles, U. S. P. H. S., gave a talk on a new parasite which is the cause of infection in the human. This parasite he called congylonema scutatum.

Colonel Seale Harris, Birmingham, Alabama, presented a paper on "Food Conditions and Nutritional Disorders in Europe, With Especial Reference to Pellagra".

Dr. E. E. Murphey, Augusta, read a paper entitled "Empyema, Diagnosis and Management".

Dr. Cosby Swanson, Atlanta, read a paper on "The Use of Radium in the Treatment of Epithelioma".

Dr. Dunbar Roy, Atlanta, followed with a paper entitled "Ophthalmology During 1918".

Dr. James E. Paullin, Atlanta, read a paper on "Encephalitis Lethargica".

The following resolution in regard to the Harrison law was introduced and adopted:

"The Medical Association of Georgia hereby puts on record its protest against the contemplated increase in tax to be imposed upon physicians prescribing under the Harrison narcotic law.

"Furthermore, considering the public service rendered in the present day by the medical profession, this Association calls to the attention of Congress the impropriety of imposing a tax of any sort upon physicians in connection with this law".

Seconded and carried.

Dr. Arch Elkin, Atlanta, read a paper entitled "A Study of the Effects of Influenza on Arrested Pulmonary Tuberculosis"

The following preambles and resolution were introduced, and on motion of Dr. V. O. Harvard, Arabi, were adopted:

WHEREAS, many counties in Georgia have adopted the Ellis Health Bill, and

WHEREAS, many of these counties are unable to secure trained public health men, and

WHEREAS, some are having to seek men from other states, be it

RESOLVED, That the Medical Association of Georgia here assembled request that the Medical institutions of Georgia put in adequate courses so as to provide such trained men.

Dr. W. A. Mulherin, Augusta, read a paper entitled "The Feeding of Sick Babies".

Dr. W. L. Funkhouser, Atlanta, read a paper entitled "Child Welfare Work; A Community Responsibility".

Dr. W. A. Cole, Savannah, read a paper entitled "Carcinoma of the Breast Plus Surgical and X-ray Treatment".

On motion, the association adjourned until 3 P. M.

Third Day—Afternoon Session.

The association reassembled at 3 P. M. and was called to order by the President.

The following officers were ballotted for and declared duly elected:

President, Dr. E. G. Jones, Atlanta; First Vice-President, Dr. W. H. Hendrix, Tifton; Second Vice-President, Dr. J. M. Smith, Valdosta; Delegate to the American Medical Association, A. H. Bunce, Atlanta; Alternate to the American Medical Association, Dr. E. E. Murphey, Augusta; Councilor of the Fifth District, Dr. E. Price Merritt, Atlanta; Council of the Sixth District, Dr. J. O. Elrod, Forsyth; Councilor of the Seventh District, Dr. George B. Smith, Rome; Councilor of the Eighth District, Dr. W. E. McCurry, Hartwell.

Place of meeting, Macon, the first Wednesday in May, 1920.

Dr. Jones, after being escorted to the platform, expressed his appreciation of the confidence of the association in electing him President and thanked the members for the distinguished honor conferred upon him.

As there was no further business, either scientific or otherwise, to come before the meeting, on motion, the association then adjourned.

CHATTAHOOCHEE VALLEY MEDICAL SOCIETY.

The Chattahoochee Valley Medical Society will hold its annual meeting at Columbus, Ga., July 9th, 10th and 11th, 1919. An interesting program has been prepared.

Pneumonia

The high percentage of deaths from infection by the *streptococcus hemolyticus* complicating pneumonia, warrants our calling attention to the importance of

1st. IMMUNIZATION

Preventing infection with an appropriate Serobacterin or Bacterin. Reports from physicians in charge of medical work connected with industrial institutions, boards of health, and general practitioners, abundantly justify the prophylactic use of a suitable Serobacterin or Bacterin containing the organisms isolated from the present epidemic, in preventing influenza and pneumonia.

The Conference held at the British War Office, October 14, 1918, Col. Sir Wm. Leishman, Chairman, reported in favor of immunization and treatment of infections with suitable bacterins.—See British Med. Jour., Oct. 26, 1918, p. 470.

2d. TREATMENT

In streptococcus pneumonia the early use of Antistreptococcic Serum Polyvalent **administered intravenously, in full doses (100 to 200 mils), repeated every 8 to 12 hours as indicated.** This serum contains the antibodies against the different streptococci isolated from the present epidemic. Especial reference is made to the *streptococcus hemolyticus.*

In pneumococcus pneumonia the **early use** of Antipneumococcic Serum Polyvalent **administered intravenously in full doses (100 to 200 mils), repeated every 8 to 12 hours or as indicated.** The superiority of Polyvalent Serum was proven in a series of cases treated with Polyvalent Serum and a series treated with Type I Serum only, when found due to be Type I Pneumococcus infection. See report by Medalia and Shiff, M. C. U. S. Army, Jour. A. M. A., Nov. 30, 1918, p. 1821.

In mixed infections the conjoint use of both sera is indicated.

We prepare a Monovalent Antipneumococcic Serum **Type I** and a **Polyvalent** Antipneumococcic Serum. The Polyvalent Serum contains the same amount of antibodies against Type I pneumococcus as the Type I Serum and in addition contains antibodies against Types II and III. Preference may be given to the Polyvalent Serum where type determination is impracticable.

These Serums are furnished in 50-mil Ampuls with Apparatus for intravenous injection.

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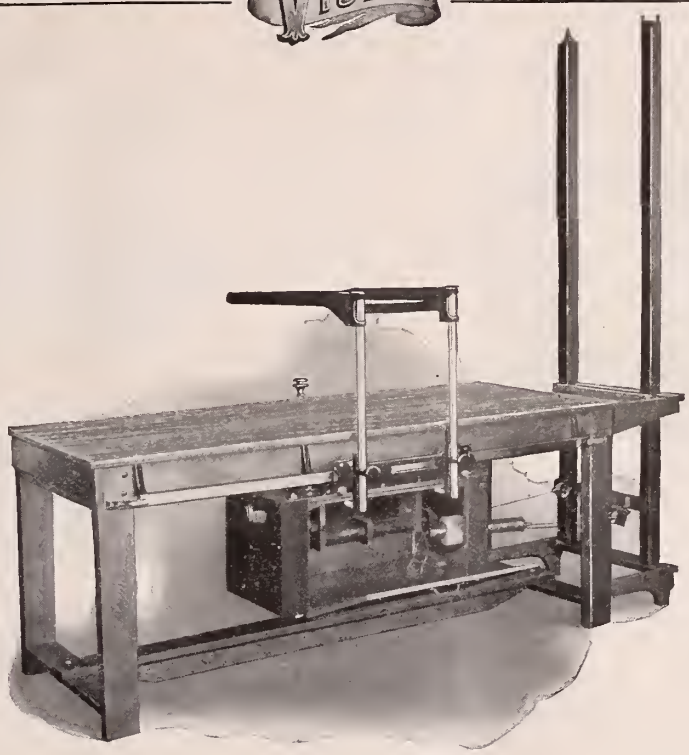
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OF THE

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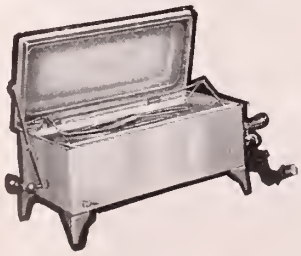


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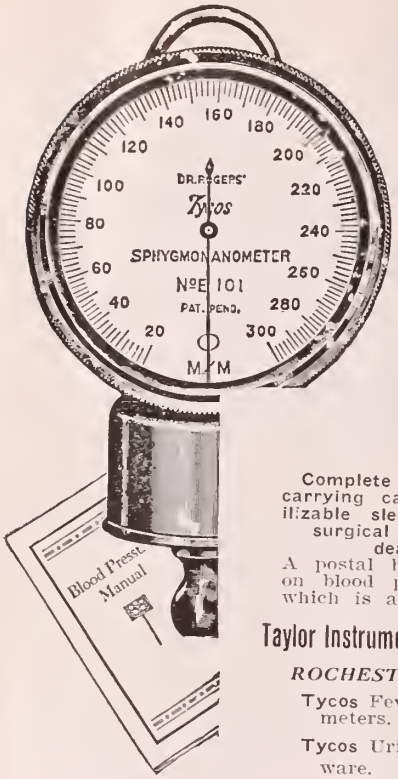
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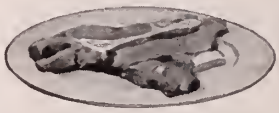
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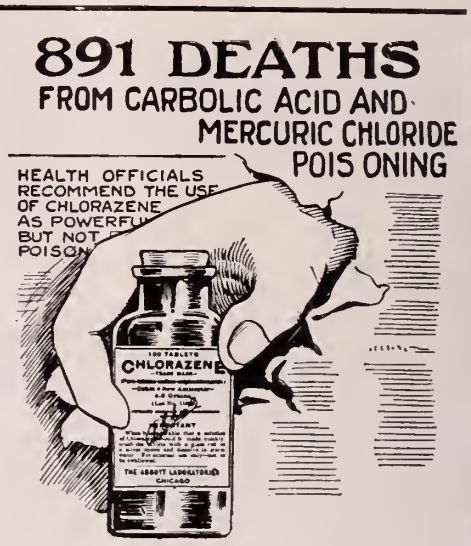
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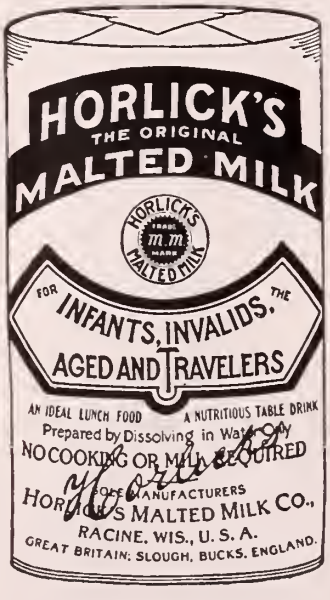
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SOME SURGICAL PROBLEMS IN SURGERY OF THE NECK.

Edward G. Jones, M. D., Atlanta, Ga.

Than the neck there is no part of the body which stimulates a higher degree of surgical interest, or which challenges a more earnest effort to render skilful service. The number of affections here which are proper

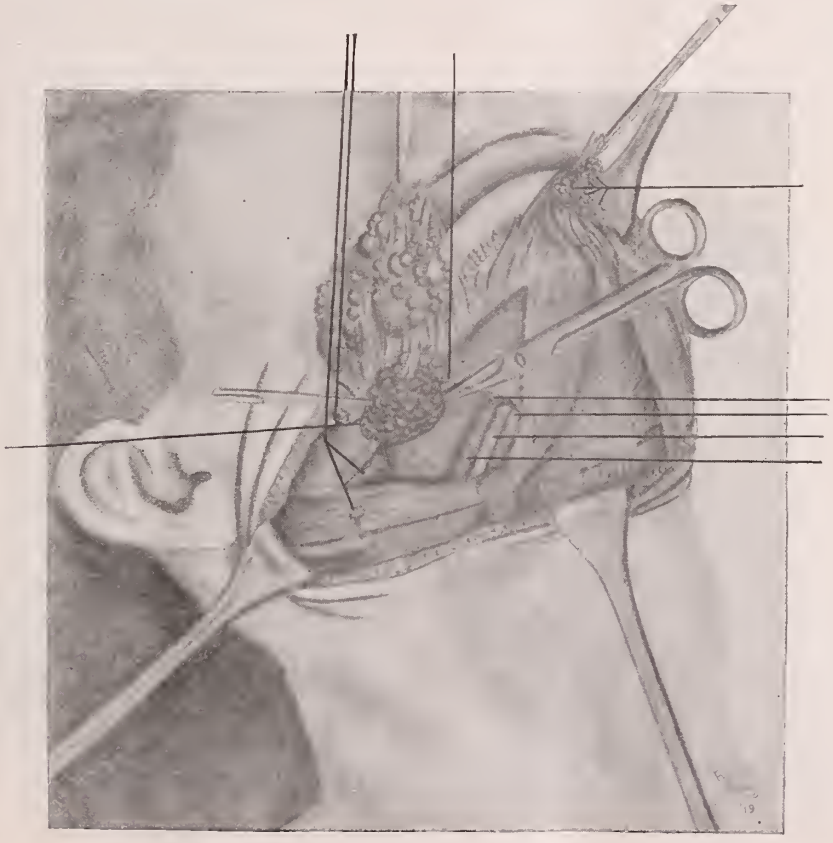


Fig. 1. Dissection of submaxillary and submental regions.

objects of surgical attack; the concentration in a relatively small area of so many structures of preserving the neck and face from any sort of deformity, all unite to make this a field which invites one's very best diagnostic and operative endeavor.

I. Carcinoma of the Lip.

In carcinoma of the lip, the lip itself is not the problem. The problem is in the neck.

In order that a cancer may be curable it must be situated where an early diagnosis may be made, where a free excision of the local growth is possible, and where the lymphatics into which the cancerous area drains may be removed. There is no situation in the body where these three requirements are more ideally met than in connection with cancer of the lower lip. The patient and his friends are all cognizant of the sore; practically the whole lower lip may be removed without serious deformity, especially in the male if the mustache or beard be allowed to grow afterward; and not only may the next adjacent lymphatic glands—the sub-maxillary and the submental—be removed en-masse, but the second set of lymphatics which receive the drainage from the submaxillary and submentals may also be entirely ablated.

The above mentioned circumstances, taken together with the fact that cancer of the lip usually progresses slowly, and together with the further fact that when the lymphatics in the neck have been removed and the original lesion in the lip has been resected, recurrence in the tissues between the lip and the submaxillary and submental regions is practicallytically unknown,* render this lesion probably more amenable to ideal treatment than almost any other malignant lesion in the body.

Emphasis must be laid upon the absolute necessity of removing all the glands and gland bearing tissue from **both** submaxillary triangles, because there is rather free communication across the median line between these two areas. The dissection should also include the submaxillary salivary glands, since there are several small lymphatics so closely associated with this gland that their separate removal is a practical impossibility. Also one must very carefully remove all gland bearing fascia between the anterior bellies of the digastric and the mylohyoid. Three or four small glands usually lie close up under the symphysis menti, and not infrequently concealed behind the digastric fibers.

The incision should extend from the angle of the jaw on one side to the same point on the opposite side of the neck, and should lie a little back of the lower border of the remus so as to preserve the fibers of the facial nerve which supply the angles of the mouth. This incision must pass through the platysma which is to be reflected with skin flaps. The dissection is shown in Fig. 1. The landmarks are the anterior and posterior bellies of the digastric and the hyoid bone in the median line. The structures to be especially protected are the hypoglossal and lingual nerves. Section of the facial artery and vein is necessary.

The glands from the submaxillary regions should be examined immediately on being removed. If they are reported to be malignant the dissection must extend down the neck on that side, or on both sides if both submaxillary regions are malignant. Ideally it is preferable to complete the dissection at



Fig. 2. Branchial cyst presenting in submaxillary triangle complete enucleation.

*Since this paper was written we have had to remove half the lower jaw for metastasis in the overlying tissues with erosin of the bone. The neck dissection and the lip excision had been done three months previously.

one operation. Practically it may be good judgment to do this dissection below the submaxillary regions at a second operation.

This block dissection should include the removal of the sterno mastoid muscle, so that the possibility of leaving behind a few glands will be lessened. As is well known, the operation of Crile removes also the internal jugular vein. This may or may not be done, but we believe the dissection can be done a little more expeditiously by removing it. We have occasionally noted some cerebral symptoms which have not been serious following its removal. This dissection can usually be done more quickly and expeditiously than one would think, and in cancer of the lip more quickly than in the case of tuberculous glands, because in the latter instance there is usually considerably more inflammatory reaction to hamper the procedure.

II. Tuberculous Glands.

When one reflects that the most depend-



Fig. 3. Infected branchial syst. Complete enucleation.

able way to arrest tuberculosis is, if possible, by total ablation of the affected tissue he is strengthened in his view that surgical treatment of tuberculous cervical lymphadenitis is sensible. There is little wonder that the surgery of a decade ago for this trouble was disappointing because the efforts of that time failed to comprehend the facts, first, that there is no drainage from the lymphatics of the neck into the chest cavity, and second, that all the lymphatic glands and their enveloping fascia can be removed en-masse from one side of the neck.

Of the 800 lymphatic glands in the body, some 300 are located in the neck. The glands of the upper neck drain into the glands about the sternomastoid, most of which are situated underneath this muscle. From all these glands in the lower neck and the region of the sternomastoid the drainage concentrates on each side to a single vessel, which on the left enters the thoracic duct, and on the right the subclavian or internal jugular vein; so that if the dissection be begun below the lower limit of the cervical glands and be carried upward, and if at the upper extremity of the dissection (about the mastoid process) or elsewhere absolutely no lymphatics be left, there will not be a local recurrence; nor need one feel that, although he has done a thorough operation in the neck, there is still open drainage into the mediastinal glands which cnanot be reached.

III. Branchial Cysts.

The branchial clefts in man correspond to the gill slits in fish. There are four on each side, and in the adult their original location is indicated by creases in the skin of the neck. In the embryo the pharyngeal extremity of these clefts is eventually closed



Fig. 4. Branchial fistula.

by hypoblastic tissue, and the external end by epiblastic tissue. Mesoblastic tissue is between these two extremities. If during development the surfaces fail to fuse, and the two extremities are closed a branchial cyst results. If there is in addition a failure to fuse at either extremity there is a branchial fistula.

In our experience these cysts which commonly present in the submaxillary triangle come to operation in adult life with so much interference with the characteristic epithelial lining by reason of infection, etc., that an unequivocal diagnosis is frequently, if not usually, impossible. Of course, if the cyst or fistula can be entirely enucleated, as was easily done in the case of Figs. 2, 3, and 4, the situation is easily handled.



Fig. 5. Probable congenital lymphangioma. Complete removal. See text.

IV. Congenital Cystic Lymphangioma.

We present photographs of two patients, Figs. 5 and 6, in whose cases a provisional diagnosis of congenital lymphangioma has been made. In case of the patient shown in Fig. 5 the growth was removed by operation, was well encapsulated and we were inclined to believe it originated in the thyroid. In this view, however, we were not supported by the pathologist, though he is unable to commit himself categorically as to the nature of the growth. His suspicion of sarcoma (the tumor being both cystic and solid) is not supported by the fact that the child has remained well now for 18 months since operation with no sign of recurrence.



Fig. 6. Probable congenital lymphangioma.

In case of the patient shown in Fig. 6, the tumor is likewise both cystic and solid. A clear straw colored fluid has been aspirated several times. The fluid has the general characteristics of lymph, but is not otherwise suggestive. Thyroid extract has apparently not affected the situation. The child has not come to operation because of



Fig. 8. Extreme hyperthyroidism in child. No apparent thyroid enlargement.

our indecision as to the character of the tumor.

V. Juvenile Goiters.

Enlargement of the thyroid in infants and children is not so very uncommon. Children



Fig. 9. Juvenile goiter. No symptoms.

born with enlarged thyroids are usually cretins,

It is said to be rather characteristic of hyperthyroidism in children that they lack the degree of nervous excitability, physical weakness, etc., which characterize the trouble in adults. An exception to this state-



Fig. 10. Juvenile goiter. No symptoms.

ment is represented by the patient shown in Fig. 8, although it is true that this patient was approaching the age of puberty when she came under our observation.

The patients shown in Figs. 9 and 10 exhibit practically no symptoms of hyperthyroidism. Such patients are perhaps best treated by thyroid products. We are inclined to feel that it is decidedly unfortunate to interfere with the integrity of the thyroid by operation before puberty.

BLOOD TRANSFUSION AS A THERAPEUTIC MEASURE IN SEPTICEMIA.

W. P. Harbin, M. D., Rome, Ga.

Most all of the routine work in grouping blood referred to below, has been written up in the medical journals in recent years. This subject is of enough importance to rehearse. Moss, Brem, Sanford, and many others have perfected the methods of blood grouping.

A very important part of blood transfusion is the selection of a healthy donor. If possible it is safer to do a Wasserman on this individual. It is essential to make an agglutination test between the blood of the donor and the donee. In a large number of individuals the serum of one blood will cause a disintegration of the red cells of another. This hemolysis of red cells has many times caused death during transfusion. The blood of near relatives is often incompatible.

Moss' Agglutination Test: This test is based on the fact that before one serum will cause hemolysis of the red cells of another, it will first cause agglutination, and then disintegration of the red corpuscles. Some serums will agglutinate the red cells of other persons without causing hemolysis. In 20% of all of the cases where agglutination takes place, hemolysis occurs.

The blood of different individuals fall into one of four groups—depending upon their agglutinative qualities. They are designated as groups one, two, three, and four. In making transfusions of blood, the donor should belong to the same group as the patient if possible. It is admissible, however, to use the blood of a donor if the serum of

the donee does not agglutinate the red cells of the donor, because the serum of the patient would probably dilute that of the donor to such an extent as to make the agglutinating serum of the donor harmless. The red cells of group four are not agglutinated by the serum of any other group; so the blood from any one in group four can be used for transfusion to any one. It is fortunate that the largest per cent. of individuals belong to this group.

Dr. Moss, formerly of Athens, Ga., first found that all bloods fall into one of four groups by the test of serums against corpuscles.

Group one (10%) serum does not agglutinate the corpuscles of any other group. Group one corpuscles are agglutinated by the serums of groups two, three, and four.

Group two (40%) serum agglutinates the corpuscles of groups one, and three, not four. Group two corpuscles are agglutinated by the serum of groups three and four, not one.

Group three (7%) serum agglutinates the corpuscles of groups one and two, not four. Group three corpuscles are agglutinated by the serum of two and four, not one.

Group four (43%) serum agglutinates the corpuscles of groups one, two, and three. Group four corpuscles are not agglutinated by any serum.

The serum of one group will not agglutinate the corpuscles of another person belonging to the same group.

By the third year of life, the group is fixed and unchangeable for that person. The serum of a given blood has a protective agent called anti-hemolysin for its own corpuscles which prevents hemolysis of its own red cells. This serum does not contain a corresponding anti-agglutinin, so hemolysis may be prevented without preventing agglutination.

Vincent's method of determining Moss' grouping of blood is as follows: In order to do this, we must have two standard serums of groups two and three. These two serums can be kept indefinitely in a citrate of soda solution one and one-half per cent. and three-tenths per cent. solution of chloroform. These must be kept sterile. The technique is as follows:

One drop of group two serum is placed on a glass slide near one end, and one drop of group three serum on the same slide near the other end. A drop of blood from the person to be grouped is mixed with each of the serums on the slide and the reactions noted. Clumping, if it takes place will occur in three to five minutes. The various groups will be noted by the following reactions:

1. If agglutination of corpuscles takes place in group two serum and not in group three serum, the blood being grouped belongs to group three.

2. If agglutination is noted in group three serum and not in group two, the blood belongs to group two.

3. If agglutination takes place in group two and group three the blood being grouped belongs to group one. If agglutination does not take place in either serum, the blood belongs to group four.

These agglutinations can be observed with the naked eye but if there is any doubt, this can be verified by microscopic examinations. By this method grouping can be done quickly and in a very simple manner.

For about two years we have been making agglutination tests in the following way: Two to three drops of the patient's blood is added to one cc of a two per cent. citrate of soda solution in a test tube. Two to three drops of the donor's blood is treated also in the same manner in another test tube. One cc of blood is taken from the patient and placed in a centrifuge tube, and in a like manner a similar amount is taken from the donor and placed in another centrifuge tube. The blood in the centrifuge tubes is put into the centrifuge and then the centrifuge started and left until the serum is separated from the blood clot. With a pipette these two clear serums are put in separate clean test tubes.

Having these two serums and these two suspensions of red cells, we test for agglutination in the following manner: Two platinum loops full of serum of the patient are placed in a cover glass and one loop full of the donor's corpuscles are mixed with this serum. Then by the hanging method, we observe under the microscope whether or

not the serum of the patient agglutinates the donor's corpuscles.

In a similar manner, the serum of the donor is mixed with the corpuscles of the patient, and agglutination again watched for under the microscope. If no agglutination takes place, the slides are put in the incubator and left for thirty minutes, and again observed for agglutination.

If the serum of the patient does not agglutinate the donor's corpuscles, transfusion is done. If the serum of the donor does not agglutinate the red cells of the patient, we are more sure that it is safe to transfuse. Even if the serum of the donor does agglutinate the donee's red cells, it is safe to transfuse.

I would like to report two cases of blood transfusion for puerpal sepsis. Her history is as folows: Mrs. ————, admitted to the hospital, December 27, 1918, age 22, weight 130, temperature 103, pulse 120. Family history negative.. This patient has never had any menstrual disorder of any kind. She has had two children. Her first baby was delivered with forceps; she has an incomplete laceration of the perineum. Her general health has been excellent. Sh has had measles and whooping cough.

When this patient was admitted to the hospital, her baby was three weeks old. On the day the infant came, her temperature was 100 degrees Fahrenheit. Four days after this her temperature was 102. At this time, her physician gave her an intra-uterine douche which caused a profuse discharge of offensive pus. Following this he gave daily an intra-utrine douche for 6 days.

On admission to the hospital, vaginal examination did not reveal any masses in or around the uterus nor were there any tender points or pain in the pelvis. Her chief complaint was pain in the region of the gall bladder and right kidney. Two weeks after being in the hospital, she had pneumonia in the right lung which cleared up in about nine days. Previous to and following pneumonia, she ran a temperature characteristic of puerpal sepsis with chills, sweats, and a slightly jaundiced appearance.

When this patient was first admitted, a specimen of blood was taken for a blood culture but no bacteria were found in blood even after it had been in the incubator for three days. Later, however, streptococci and staphylococci were found.

We made an agglutination test between the blood of this patient and her husband which showed no agglutinations. After this we did a Wasserman on the woman's husband which was negative.

Following this we made an autogenous vaccine from the micro-organisms obtained from the patient's blood. The husband was given the vaccine. Later transfusion of blood was given the wife, using her husband as the donor. After this the patient had a chill and high temperature from serum sickness. Following this, her temperature came down quickly, and her recovery was very fast.

Case II, Mrs. ————, admitted to the hospital, March 3, 1919, age 27. Her mother has tuberculosis. Her menstrual history is negative. Her general health has been good, never had any illness of importance.

Three weeks previous to admission to the hospital she gave birth to an infant. Following this and after admission to hospital she had the usual histor yof puerpal sepsis. The blood cultures were negative for bacteria. On the 5th day after admission she was given 500 cc of citrated blood from her brother. Two days after the transfusion she gained one-third million of red cells. There was an increase of 6000 in leucocytes, and an increase of the hemoglobin from 65 to 70%. Five days previous to transfusion her average daily temperature was 102. The daily average five days following transfusion was 100.

Through the kindness of Miss Catherine McDonald, a laboratory worker of Roosevelt Hospital, we obtained some group II and group III serum, and with this we have grouped 23 individuals, mostly the nurses and doctors connected with our institution.

Through the courtesy of Dr. A. H. Sandford, of the Mayo Clinic, we have received cover glasses containing dried serum of groups II and III. By mixing a suspension of groups II and II the donor and patient can be quickly grouped. So recently we have been using this dried serum. We had

grouped about 25 people before finding any one in group II. We at last found a donor in group II and 15 people in group III.

In the future we will be able to get standard serums from our donors and having grouped a large number of persons, we hope to use the blood of donors who are in the same group as the patient. This will enable us to have less reactions when we do transfusions. Recently, I did a transfusion on a woman who had an enormous hemorrhage from placenta previa using her husband as a donor. This wife and husband were both in group III and she had no reaction from the transfusion.

Conclusions.

1. Transfusion of blaad has been made comparatively safe by our knowledge of agglutination and hemolysis.

2. By using citrate of soda as an anticoaglent of the blood, transfusion has been greatly simplified and the danger lessened.

3. Citrated blood seems to be used more than whole blood.

4. Transfusion of blood should be used more in the future than in the past for septicemias from any cause.

5. Since the method of transfusion is so simple and safe the fields of usefulness will probably increase.

6. When practical, we should use the micro-organism from the blood of a case of septicemia to make a vaccine. This vaccine should be given to a suitable donor and after this, the blood of the donor should be used to transfuse the patient.

DISCUSSION OF THE PAPER OF DR. HARBIN.

DR. E. C. THRASH, Atlanta: I want to report some experience I have had in this work. One point I wish to make is that in giving transfusions at intervals of four or five days or a week, or further intervals, one should test out the agglutination in each instance because the donee or recipient begins to establish immunity against whatever foreign blood may be introduced, and if you give a blood that is absolutely correct, and a week later give the same blood, that patient will have a chill and be made very sick and may possibly die. I have learned from experience that this must be done or trouble will be had.

Another thing: Several years ago I devised a rather complicated apparatus for the purpose of transfusion; I have simplified it now; I have two needles with stylets correctly ground that are used in making spinal puncture. I introduce the needle into the donor and recipient's veins with the stylets in, taking a two hundred c. c. syringe, usually as large a needle as the vein of each person will permit, put a two per cent. solution of sodium citrate into the syringe; when mixed up that gives one-tenth of the citrate solution which will keep the blood in good physical condition for thirty minutes; then I take the syringe from the donor's needle, introduce the stylet and attach it to the recipient's needle and shoot the blood in. If you want more than 200 c. c., you can repeat it as often as you wish.

My experience with transfusion has been made on hemorrhagic conditions which I find in my practice, especially in tuberculosis. Many of my cases of tuberculosis are hemorrhagic, cases with repeated hemorrhages, and I fin dnothing so efficient as the transfusion of foreign blood. It is practically a specific in hemorrhagic conditions.

I have had but very little experience from a surgical standpoint, but it is preeminently the proper thing where we have a case of tuberculosis that continues to bleed. You will be thoroughly pleased if you will try this method of transfusion, which is just as simple as giving any other intravenous injection. In cases of urgent demand, you can take a daughter, a son, a brother, or sister of the patient and sit her down and draw out 100 c. c. of blood and shoot it right into the patient's veins without any ceremony in five minutes, and it is just as simple as administering horse serum and is much more efficient. If you take a brother, sister, daughter or son, you can introduce 100 c. c., or 50 or 75 c. c., quite easily with a fair degree of safety. I have never had any serious results from this method.

DR. ALLEN H. BUNCE, Atlanta: Dr. Harbin is really to be commended for and congratulated on the work he has reported here today. The point I wish to bring out

is this: This method may look complicated but it is entirely practicable, and it is easily done.

The first commission to study this question of transfusion drew conclusions that coincide closely with those Dr. Harbin has reported. They decided that this method of testing for the compatibility of bloods and also the citrate for transfusion was a good one because of its simplicity. It is not difficult and can be carried out by any one who can introduce a needle into a vein. The method of grouping the blood is not difficult. It is easy. The microscope will help in doubtful cases but it is not necessary. You use simply a glass slide, and it can be done by any one in a few minutes. It is not a difficult operation.

I have been surprised at the number of donors that have been tested for the difference to see whether or not their blood is compatible with that of the patient. It is necessary to test fifteen or twenty to get blood that is perfectly compatible. One must line up a bunch of fellows and decide that difference, and it is not such an easy matter to get one whose blood is compatible.

In reference to giving transfusions before making tests, quite recently I read an editorial in the Journal of the American Medical Association recounting some trouble which had followed where the blood had not been tested. I do not think we are justified in transfusing a patient with foreign blood. Theoretically, it is a simple matter to test it out before it is done.

DR. GEORGE W. FULLER, Atlanta: This is a very interesting paper to me because I happened to be in New York when a physician tested this out and had the opportunity of watching it from its beginning and saw it developed to perfection. First, we used two per cent. sodium citrate and frequently we had clotting of the blood, and in about one out of every three cases the transfusion would be a failure on account of the clotting. Then we used two and a half sodium citrate and have done so since that time and I have not seen any clotting of the blood.

There are two practical things I would like to mention that sound small but still are very important.

One is the proper way of putting on the tourniquet. A lot of men in putting on the tourniquet take the arterial blood. This may sound to you foolish but good men do that, and as soon as they draw off the blood they dam up the tourniquet and the thing starts clotting, and the whole thing is a failure. The tourniquet should be put on tight enough to constrict the venous return and not interfere with the arterial. If you do not get blood out in a limited amount of time you will get clotting and the whole thing will be a failure. If this detail is taken care of the whole thing is easy.

Another thing that is practical is in getting it out in a short time. If you force the blood out, if you let the patient rest and massage the wrist like this (indicating) you can get the same pressure that you would get by contracting the muscles.

As to the method of testing out the blood, the microscopic method seems a little difficult to me. The method I have always seen used was the macroscopic where you draw off in a test tube about three-quarters of sodium citrate, two and a half per cent. of the same blood and centrifuge and get the red blood less diluted, getting ten per cent., and putting two drops of that with six drops of the patient's serum and that will give a sufficient test. This method of transfusion is made so simple that all of us ought to be able to do it when indicated, and I think it will be done in the future.

DR. HARBIN (closing): I wish to thank the gentlemen for their free discussion of my paper. In regard to what Dr. Thrash has said, I would like to ask him if he has authority for the statement that the blood grouping sometimes changes after it is once grouped? Do you mean to say, doctor, that the blood will get into another group at a later time?

DR. THRASH: I mean to say, it is purely a clinical proposition. I have had two cases where I have grouped them, and in the first instance it was not severe, but in the second case, when I gave blood transfusion a week later I got a marked chill and a profound reaction. The probability is that this group-

ing is an arbitrary proposition and means but little in a broad sense. When you introduce a foreign protein into the tissues of a human being he begins to establish resistance against the protein. It is the immunization process that causes this deviation, so when you put blood in, if there is any natural immunity the blood permeates the circulation for a period; nature establishes immunity later on, and after that immunity becomes established the group changes. It is a different group. It is based entirely on biological principles and it is very easily understood. It is simple when one has had the experience of giving serums for a considerable length of time. If you give serum at one period, and then later on give it at another period you get anaphylaxis.

DR. HARBIN (resuming): It is a well known fact that the individual falls within one of these four groups, and that individual is not changed so far as grouping is concerned; it does not make any difference how many times you give transfusion of blood. It will fall in the same group. It is a fixed and unchangeable thing. If an individual is in group 1, he will always be in group 1.

DR. THRASH: How do you know?

DR. HARBIN: It has been demonstrated by the men who have worked this thing out in thousands of cases.

DR. THRASH: There is no experimentation on grouping with which I am familiar.

DR. HARBIN: If an individual falls within a certain group, you cannot change his grouping by transfusion or any other method, and if Dr. Thrash can get an individual to change his group, I would suggest that he write that thing up because it is a very interesting thing.

TONSILLECTOMIES IN THE ARMY.

By Richard R. Daly, M. D., Atlanta.

In civil life it frequently happens that young men present themselves at the specialist's office complaining of tonsillitis and showing large tonsils having various infections of the surfaces and crypts. These usually respond quickly to local treatment. Evacuating and sterilizing the crypts as fully as possible and applying silver nitrate or iodine solutions to the surfaces is followed by so much improvement in 24 hours that the patients continue their occupations especially when sedentary. The advice given to have the hypertrophied and diseased glands removed at some early future time, coupled with a warning that a train of other troubles is likely to follow if the operations are not done, is unheeded as a rule and the patients go along until the next acute attack when the whole thing is repeated. In the long run, these young men get on pretty well and, since the ultimate results of the infected and deformed throats are so remote as to be out of their reckoning, the patients are somewhat likely to think that the doctor is trying to get business or is unnecessarily susceptible to alarm.

Defective hearing at 60, low resistance to intercurrent respiratory diseases and various somewhat obscure results of chronic toxicity are of importance to the doctor but to the husky young man, proud of his real or fancied vigor and a little boastful of his ability to stand things, these end results are not accepted in making his conclusions. He goes his way after an attack and smilingly calls his doctor's attention to the fact that he is perfectly well. All discussion ends. No doctor wants to be croaking and calling in the glooms even if he does know that the young man is following the difficult and dangerous pathway that the headstrong who demand experience as their teacher usually traverse.

In May, 1917, I was invited to hold a clinic at Ft. McPherson while awaiting my commission and assignment in the Army. It was thought that an hour for two or three days a week would be sufficient. There were but few enlisted men at the Post and the most of the men likely to need assistance were in the First Officers Training Camp. It promptly developed that there was need of a clinic every day and that operations were indicated even upon these young men who were the pick of the community.

The training given to them was easy at first, but shortly they were drilled with carrying ten pounds and this weight was gradually increased to thirty pounds or more. Hikes were taken and everything done systematically to harden muscles and teach phy-

sical and mental endurance and self discipline. Under this unusual strain, physical defects that were latent showed themselves and received attention. Quite as much as the feet was the respiratory system called upon to do unusual things and thus any weakness or obstruction soon showed itself. Throats with enlarged tonsils became sore because of mouth breathing. Tonsils with crypts swelled and narrowed the breathing spaces. In many cases the endurance was so lessened that the men came for relief and wanted just what they had had in civil life —palliative treatment. Times had changed, however, and there was too much at stake to permit these young enthusiasts to determine surgical policy. It was shown to them that if they were in the trenches and taken down with tonsillitis, not only would they be of no use, themselves, but they would require at least one good man apiece to care for them until they could be started back to the hospital. Operations were ordered and in the main cheerfully submitted to.

Anaesthesia. In private practice, I had had unhappy results with local anaesthesia because of the risk of secondary haemorrhage. During the operation and for a short time after it, the patients have felt so well and suffered so little inconvenience that they did not keep quiet. They were not in the hospital and, indeed, they asked to have the local method used so that they would not be required to go to bed. Secondary haemorrhage resulted in about 30% of the cases of adults and always it was difficult to control because occurring at home where there were no facilities for this sort of work. Even where there was no haemorrhage, the reaction from the ischemic anaesthetic was always attended with distress and the patients did not get on so well in the long run.

In my own work the local method was not used in the Army.

During the last six months of my service, I was at another hospital and observed the work of others. Tonsillectomies were performed under lolal anaesthesias. The work was pretty. Classes of doctors were in attendance and they learned a deal as to the application of various instruments. There was a tendency to do an over speedy separation of the pillars in dissection and to use the wire snare or Sluder blade too rapidly because it was all easy and made a good demonstration. The patients suffered not at all and were loath to go to bed though they were always put there. In a few hours, the anaesthesia disappeared and with it went the ischemic effects of the cocaine, etc., with its departure came the pain and exaggerated swallowing by the patient. A distinct reaction ensued and oozing or bleeding began. This reaction is always present; it shows itself in the returning color of the parts. They are always redder four hours after this operation than they are at the same time after general anaesthesia where there is no such reaction.

In most cases the oozing ceased spontaneously but I was informed by a competent officer that my own observations were correct and that over 25% had post-operative haemorrhage requiring skilled attention and the use of clams or sutures within 8 hours of the operations. I am satisfied that in that post-operative period my ether cases were not only safer but more comfortable than were these locals.

Anaesthesia, however selected, must be carefully used. In the local method, too little anaesthesia is attended with movement by the patient while too much increases the shock and reaction. As to ether, it is probably best proceeded by morphine though this drug causes vomiting at times. The administration of either to an adult for tonsillectomy is the very acme of the anaesthetist's art and skill. Upon it depends the success of the operation in high degree, for no operator, however skillful, can do the best work, with the minimum of trauma, when the patient is moving or gagging or striving for breath, nor can he avoid undue bleeding if the patient has been cyanosed by the anaesthetist. An anaesthetist who uses a tongue clamp and a breathing tube over the tongue as a rule is to be avoided and shunned. He doesn't know how. Complete relaxation without stertorous breathing and tongue swallowing must be attained and just anyone who can hold a cone and chat with the people round about is not

competent to do this. I had some bitter experience in this regard.

The ether sleep is deeper than that required for abdomenal section. It requires the undivided attention of the anaesthetist. He should have all his preparations made in advance and never converse or even look around while indueing relaxation. There should be no conversation in the room. The last impressions the patient receives as his confused state passes to complete unconsciousness may be gained from some thoughtless remark of a speaker and be such as to make his awakening period one of violence and dangerous struggle. On the other hand, as the anaesthesia is about to begin, a few judieious and kindly words of counsel and guidance from the anaesthetist frequently carry the man through the stage of exeitement without the need of an orderly's restraining hand. The good anaesthetists I have seen work have proved to me that it is not often necessary to tie a man to the table.

The forehead and temples should not be entirely covered, for it is in the appearance of the skin at these areas that one has an invaluable guide.

The giving of ether at any time is not a mere incident of the day; it is not personal to the anaesthetist so that he can treat it lightly and display carelessness just to show his skill. It is personal to the patient who may be uncomfortable or even dead because of lack of consideration and exact methods.

One young surgeon affected to smile at my care of these matters and told me how many anaesthesias he had given. Let us say it was 2000. He had done 2000 wrong, for he had not even approached the matter eorrectly and I secured someone else after witnessing and struggling with his method in one instance.

The patient should be so relaxed as to enable the operator to do his work quickly and with no pulling or needless trauma. Speed is not so much of a disideratum as ease in manipulation and steadiness in work. If a patient is restless or stertorus, there is bound to be jerks upon the instruments the operator can not foresee or prevent and these mean haemorrhage. This can all be done and it is because the operator's success and his responsibility are eoncerned that I have gone into what usually is left to another specialty.

There are many other anaesthetics that conditions may indicate. I have used chloroform with success though always with increased anxiety. My experience with gas-oxygen has been limited but favorable.

I do not want a nurse to give my anaesthetics. I want not only a doctor but a good one. I am not a suffragist in this matter.

Operative Method. In my experience the operation of choice is the Beck-Schenk and no dissection. With proper anaesthesia it can be done in adults in a large majority of cases and in children in practically all cases. When done carefully, all the tonsil is removed with the least amount of trauma and with risk of haemorrhage reduced to a minimum. It is important that the patient should not move after the snare is engaged and that the wire be drawn through slowly and without any side movement. Thus the small blood-vessels will be constricted long enough before they are severed to secure clotting in them. After the tonsil is removed there should be no sponging or rubbing of the fossa; the small clots will be rubbed out and oozing folow. If the remaining shreds of capsule project, they can be gently replaced with the finger.

In cases where dissection is necessary, I have found that the Douglas knife and the finger are all that are required. The first nick made with the little probe pointed knife between the tonsil and the anterior pillar will permit the finger to begin finding its way gently around the gland. Then whenever an obstruction appears difficult to separate by the blunt end of the finger, the knife can be inserted by feeling and a little nick made that will let the process go on. In this way there is no tearing or unnecessary eutting. The adhesions break down before the advancing finger in their proper line of cleavage. The finger nail is not used to tear them. The edge of the little knife is always away from what should not be cut. There is no dragging upon the tonsil, for the tenaculum is not applied until after the dissection has been made. Then the tonsil hangs by its capsule or pedicle and if it is large, care must be taken lest it fall far enough into the throat to interfere with breathing. It is grasped by

the tenaculum, drawn gently upward and embraced by the snare wire. A slow closing of the snare without pulling will remove it without bleeding. The chief advantage of this method is that the educated finger tells accurately what is being done all of the time and thus there is no use for sponging or other delay and there is less trauma than any other dissection method I know of. As a result the patient is usually up from bed the second day.

Before the patient leaves the table, indeed directly after removing each tonsil, the operator should be satisfied that the wound is dry. It is then that bleeding points can be identified and secured with hemostats and ligatures if necessary or if there is oozing that can not be controlled, the indication for immediate cessation of work on the other side is imperative. The patient is in good position for stopping haemorrhage and is asleep. There should be no more doubt about bleeding here in the adult case than is felt in abdomenal section. Sponging should be sparingly indulged in. If there is no bleeding, the touch of a sponge is unnecessary; if there is bleeding, only enough sopping up of the blood should be done to enable the operator to secure the bleeding points. It is worthy of remark that nothing shows at this period under local anaesthetic.

An adult case should remain upon the table until there has been reaction from the anaesthetic shown in the skin of the neck. If there is no haemorrhage or oozing accompanying this sign, one may feel secure there will be no secondary haemorrhage.

Subsequent Care of the Adult Case. This is of importance. Vague directions to a nurse are an unwarranted shifting of responsibility. It leads to some of the late haemorrhages. Whatever care is indicated by the patient's condition and the experience of the operator should be exactly delineated and made into a written order for the nurse. Any departure from it should be a matter of diseipline.

It is sometimes a question whether the nausea caused by the preliminary dose of morphine is not of greater harm to the wounded throat than the induced quiescence is good. When I have a thoroughly skilled anaesthetist, the morphine is omitted from my cases.

Secondary Haemorrhage. When this does unhappily occur, the tying of the bleeding vessel, if it can be found, is the best thing to do. Often, however, the bleeding is so general that a clamp or other pressure is necessary. Many clamp devices are on the market and each of them is good if it works. Sewing the pillars with catgut is satisfactory. It should be extensive enough to insure a dry throat at the time. A local anaesthesia may be of assistance at this time, but another general anaesthesia is not always avoidable.

During the past year some Army authorities rather frowned upon tinsillectomies as being unnecessary and as tending to fill the hospitals with cases that either might be discharged for disability or allowed to go on and take the chances. They said the same thing of hernias and chronic appendicites, etc., and milled around generally. After the armistice, tonsilleetomies were interdicted unless neeessary to save life. Later they were restored to the program.

I am informed that a letter from the S. G. O. orders that all tonsillectomies be done under local anaesthesia. Someone up there has been so disturbed in his mind by the exigencies of war, the H. C. L. and the dubiety of struggle for rank that his judgment has gone astray. The S. G O. is made to appear somewhat ridiculous. Not content with starting and stopping and starting again like an amateur auto driver, the authority has veered off to considering patients as erowds or mobs and surgeons as policemen all to be ordered about in subservience to his vacillations. If the surgeon seeing his patient be not competent to do his work, unhampered by officialdom or rank, he should be replaced; if the patient's condition in the hands of skilled men be not of prime importance as showing the procedure, he is in a parlous state and needs better help than the S. G. O. ean furnish.

End Results. The most striking of these in the Army oeeurred before my assignment came and while I was still doing civilian work at Ft. MePherson. Thirty-four young men who were not making good in their training because of defective breathing were operated upon and restored to their commands in condition to complete their instruction and to go to the field. These men would

otherwise have been dropped from the rolls.

Throughout the hospital for the nine months of my service in that place, there were numerous cases of recurring tonsilitis that would have caused much trouble in the field that were cured by removing the offending organs.

In civil life, the good results are too well known to need remark.

One lesson is the less trauma, the shorter the recovery time.

The principal lesson to me was the extreme value of tonsillectomy in the adult and the fact that it is a major operation.

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SOME REMARKS ON THE REMOVAL OF TONSILS.

Arthur G. Fort, Ph.B., M. D., Atlanta, Ga.

Mr. President and Gentlemen:

It appears from the character of the papers usually presented before this Association that we are seeking to find some new disease and to discuss "rarities." This is well, but the greatest good is derived from discussing subjects with which we daily come in contact. Each of us face obscure symptoms attending every kind of disorder, and judging from the available literature, we must attribute some of these to hidden foci of infection. If we seek far enough we will find the faucial tonsils often the offending members; hence my presentation of "Some Remarks on the Removal of Tonsils."

Only two phases of the matter relative to this much attacked gland will be presented, but I trust that your discussion will bring out many valuable points. The first is: Indications for the Removal of the Faucial Tonsils; the second is: Method of their Removal.

I have accepted the following as possibly the best indications:

"I. Indications for Tonsillectomy:

1. Local disorders in the upper air passages.

2. Hyperplasia of the tonsils causing difficulty in swallowing, articulation or breathing.

3. Frequent tonsillitis or quinsy.

4. A chronic laryngitis or bronchitis may often be benefited by a nose or throat operation.

5. A chronic catarrhal or suppurative otitis media or an Eustachain tube affection.

6. Chronic diphtheria carriers.

7. Any of the various "reflex neuroses" in children; such as asthma, proxysmae nocturnal attacks of coughing, enuresis nocturna, and sometimes convulsive seizures resembling petit mal. These are sometimes due to tonsillar or nasopharyngeal disease.

8. New growths.

(II). For local trouble in the cervical glands draining the tonsils:

1. Simple hyperplasia of the glands at the angle of the jaw. This condition is very common in children and young adults, and is an evidence of a chronic tonsil or nasopharyngeal infection.

2. Tuberculous cervical adenitis. We believe these cases are best treated by (1) putting the nose and throat (the portals of entry for the tuberele bacilli) in normal condition.

(III). For general systematic disorders secondary to a focus of infection in the tonsils:

1. Infectious arthritis in which the periarticular changes predominate.

2. Myalgia or myositis.

3. The early stages of a glomerula-nephritis.

4. The various nervous symptoms designated as "neurasthenia."

5. Occasionally, an iritis, refractive to all treatment, may me benefited by a tonsillectomy; but in these cases lues and tuberculosis should first be considered as an etiological factor.

6. The rare conditions."

(The above is extract from The Johns Hopkins Bulletin).

To these may be added the degenerate buried tonsils referred to by Makuen.

We assume that the foregoing indications are in the main accepted but will call especial attention to (a) Myalgia or myositis. I will refer to one case only, to illustrate. A young nurse stated, "Why, doctor, my arms were badly drawn and the only position whereby I could be at all comfortable was by holding my hands clasped over my chest thus (illustrating). The pain was fierce and I was beginning to dispair of relief. Finally, Doctor ———— suggested that possibly the trouble came from my tonsils and advised their removal. He removed them and I began to get better and am now relieved."

This, gentlemen, is the verdict of many. The following will illustrate the relief of nephritis: A young boy, J———, age 7, was suffering from nephritis and the parents had heard of some child in Savannah being "cured of kidney trouble" by having his tonsils removed. They suggested to the internist that he refer him to me. His tonsils were of the large hypertrophied type, and they had been partly removed. We found both hyalin and ganular casts in abundance. He was treated for some time by the internist and the albumen was somewhat reduced. Finally we agreed to remove the tonsils and much to our surprise he very rapidly recovered. Only a few weeks ago I received a letter from his father stating that he had continued to improve and was able to return to school and to keep up with his classes. The operation was performed in April, 1918.

Masked and rare conditions can be illustrated by the following case: A gentleman 42 years of age called at the office stating that he felt "rotten" and had lost his "pep." His internist could find nothing specially the matter and he wondered if we could help him. He had boggy, soft, red tonsils showing evidence of chronic inflammation. We suggested their removal and he wanted it done **now**. This was done three months ago. I brought him up town a few weeks ago and he stated to me that he felt fine and was very much improved.

The degenerate and deeply buried tonsil should be illustrated. A young man, M——, age 17 years, the son of an internist, suffered with recurrent attacks of bronchitis and laryngitis. His father contemplated sending him out West for his health. The boy was only 17 years of age, but was six feet two inches tall and weighed 180 pounds. He would occasionally complain of hoarseness and sore throat. Examination of his throat showed very large buried socculent glands extending above the uvula. Considerable difficulty was experienced in completely removing them as they were too large to go through the medium size fenestra of a Beck instrument. They were removed and his bronchitis is now relieved and he is enjoying good health in South Georgia.

Practically all American Oto-laryngologist agree on this one point, if the tonsil is to be removed, remove all of it.

I agree with Dr. E. Pynchon, of Chicago, in that "no patent argument can be advanced for the partial retention of a diseased gland, and the invariable beneficial after results following a thorough tonsillectomy demonstrates the fact that the total loss of the faucial tonsils does not in any way impair the economy of the individual."

It is not my desire or intention to discuss the various methods of removal of the tonsils but simply to describe the best method from my viewpoint. We use two instruments in actually eneucleating the tonsils; they are the modified Beck fenestrated protected snare and the Beck with the ordinary snare attachment. You are familiar with the Beck instrument in that a wire, usually No. 9 piano wire, acts as the cutting part. Preparation of the patient begins about one week before the date set for the operative procedure. They are given some of the calcium salts t. i. d. with the view of increasing the coagulability of the blood and often the general condition of the tonsil is much improved by the treatment. I believe it renders the operation safer and easier, I cannot prove it. On the day or evening before the operation the usual directions preceding the administration of an anaesthetic are given. The patient is always to be operated on at a hospital or the home; never at the office. The anaesthesia is general, preferably ether, unless there are contra-indications. Where we use local, consisting of the application of a 10% cocain solution to the fauces and over the tonsils and pillars, this is applied by touching the parts lightly with cotton saturated with the solution. After this preliminary application a 1% novocain solution is injected at four points into the peritonsilar tissue using usually from one to two c. c. around each tonsil—the right tonsil is anaesthetized first, then the left tonsil. The operation I prefer is that under general anaesthesia, and I will describe it first.

The patient is supine without pillow under head. The mouth is held open by the Whithead mouth gag or some modification without tongue depressor, care being taken to see that the mucus membrane of lips are not

caught between the gag and the teeth. The light is from an electric lamp attached to forehead of operator or from mirror reflected. We depress the tongue by means of a tongue depressor and grasp the right tonsil with a volsellum forceps, pull it in and out and note its attachments; if it is badly adherred we cut the adhesions and then introduce the Beck fenestrated instrument back against the posterior pillar at an angle of about 45%; with the index finger we massage or tease the tonsil into the fenestra, making sure that the entire lower edge of lower lobe and upper portion of superior or vela lobe are within grasp when we pull taut our wire. We put good strong pressure on the tonsil and it is usually envaginated within the wire loop. A few turns of the screw fastens it well. Ordinarily we continue by slowly drawing up the wire in the fenestra, but if we fear hemorrhage in this particular individual we have the assistant to hold the instrument and throw around the tonsil an ordinary snare wire, in any type of snare, and close down with the second wire. Now, we slowly remove the tonsil with the second wire introduced. I noticed after fixing tonsils with the Beck snare and the wire pulling loose or breaking and placing an ordinary snare loop over my tonsil and removing same that there was left a dry fossa, so decided to use the method when afraid of hemorrhage. The results have been good and bleeding is the exception. After using this method and thinking it something new, I found that my old instructor, Dr. Clyde Lynch, of New Orleans, had discovered the advantage of this procedure and had reported his success with it.

The same procedure is followed with each tonsil except instrument is held in left hand for left tonsil.

After removal of the right tonsil, hemorrhage, if any, is controlled before proceeding to the left, so that when patient leaves the table the fossae are dry.

This method can be called the bloodless method with as much propriety as any method, although I contend that no method deserves that designation. With a series of about four hundred by the method mentioned, I have never had to take a stitch or tie off a bleeding vessel and have had but one case of hemorrhage which assumed alarming proportions.

As for the removal under local anaesthesia, I prefer to first dissect the tonsil from its attachment and to use an ordinary snare. We do not use adrenelin as we prefer to know where we are when we get through. If we are to have bleeding we have it now and not later.

In conclusion, I believe an operation which is so often done should be discussed at each meeting of the Medical Association of Georgia, hence this article.

Further I agree with Maknen:

"The normal faucial tonsil is small and scarcely demonstrable without the aid of a palate retractor.

The function of the faucial tonsil is still in doubt, although it is probably to guard against bacterial invasion of the system.

The protective influence of the faucial tonsil, however, is destroyed as soon as the gland becomes diseased.

The usual symptoms arising from the diseased faucial tonsils are sore throat, irritating cough, and foul smelling breath.

The diseased faucial tonsil is a distinct menance, both to the organs of special sense in its immediate neighborhood, and to the general health of the individual.

The large faucial tonsil is not only unhygienic, but it is also obstructive to respiration, phonation and articulation.

The faucial tonsil may be very large or very small, and its size is no criterion as to the extent of its disease.

The rather common belief among the laity that the removal of the faucial tonsils impairs the voice is altogether without foundation, except in those cases in which injury is done to the palate or other surrounding structures.

The largest faucial tonsil often appears small because it is held within the grasp of the faucial pillars and buried in the tissues of the neck.

The so-called submerged faucial tonsils are especially harmful and difficult to remove.

The chronically diseased faucial tonsil should be removed in its entirety, because remnants do not easily drain their crypts

into the pharynx, and the secretions are more readily absorbed into the system.

The base of a submerged tonsil left in a deep tonsillar fossa afterwards protudes itself into the fauces and leads to the supposition that the tonsil is returning."

The tonsil is best removed under general anaesthesia. It is more satisfactory and safer in children, and should always be used when an adenoid is also to be removed. Local anaesthesia can be used when complete cooperation of patient can be secured.

"The faucial tonsils should be removed first, care being taken that all hemorrhage is controlled, before going from one tonsil to the other.

The instruments used in the operation, of course, vary with each individual operator. Celerity in the performance of the operation should be sacrificed to thoroughness."

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DISCUSSION ON THE PAPERS OF DRS. DALY AND FORT.

DR. WILLIAM C. LYLE, Atlanta: There is one thing I might say as an explanation, perhaps, of the frequency with which local anaesthesia was used in doing tonsillectomies in the military service.

During a comparatively short experience in charge of this particular branch of work at a base hospital, I found a preponderance of the patients presenting themselves with tonsillar troubles in my particular hospital, were either foreign born or the descendants of foreign born people. I am not quite sure why, but the native American is just a little too nervous to stand pain, while the foreigner is able to do so. With an Italian you can go ahead and jab him all you want to without getting any particular complaint from him. I noticed this particularly in my studies in Europe. The farther east we got, the less care was taken in operating on patients.

A young man coming into the ear, nose and throat service observing this was inclined to want to do his tonsillectomies under local anesthesia, and he did them in that way, and was so much pleased that he felt somewhat elated that he was able to get through with them without any apparent trouble, and thought he had made a wonderful discovery, and perhaps would continue to do tonsillectomies under local anesthesia in his private practice. The practice of using local anesthesia continued for the matter of a few weeks or months, and then things took a turn. The men engaged in this kind of work in military service for several months went back to the old plan of general anesthesia, but the men who had been in the service for only a short time were so much in love with local anesthesia that they preferred it to general anesthesia. Therefore, I am inclined to think that the throat men, who only had a short service in the army, on coming back and expecting to do the same thing on their private patients as they were able to do with the soldiers in the army will be woefully disappointed. I think most patients in civil practice will insist on general anesthesia rather than local anesthesia.

There are indications against the use of general anesthesia so that occasionally we have to resort to local anesthesia.

Personally, I do a little differently from the men who have spoken, in that when I use local anesthesia I do not remove both tonsils at the same sitting! I simply remove one tonsil and wait a week before removing the other. I frequently wait until the patient gets comparatively comfortable, that is, in comparison with the patient who has both tonsils taken out at the same time. By removing one tonsil at a time and then waiting for a certain period I find these patients are better able to take food and things of that sort. I never remove both tonsils under a local anesthetic at one sitting, but wait until healing has occurred and then remove the other.

The methods of doing the operation have

been explained so there is no necessity for me to go into them. When you do a complete operation of both tonsils I think a general anesthetic is neeessary, particularly when you remove adenoids as well as the tonsils. In adults you can occasionally use a local anesthetic, but doing the two-step operation has proven very satisfactory in my hands.

DR. H. W. TERRELL, LaGrange: I am not a specialist in nose and throat diseases, therefore I do not feel like diseussing such a paper from the standpoint of a specialist. However, I do a great deal of tonsil work, and I heartily agree with Dr. Daly that the tonsil operation should be done under a general anesthetic. I recall only one case in the last three years on which I operated under local anesthesia.

Dr. Lyle has suggested that we make the operation in two steps. If he is able to get his patient back for the second operation for the removal of the tonsil he is more successful than I have been. I took out a tonsil for a man three years ago, but I have never been able to get him to return to have the other one removed. That was the last tonsil I took out under local anesthesia.

I took out one last Saturday from a man who had gone through the camp here; he had been in camp for six or eight months, and how he ever got by with such large tonsils I do not know. I never saw such a large tonsil as he had. I could not use my Beck instrument in this case but only the snare. I had to use the snare in taking the tonsil out. The two tonsils would practically fill the throat. He was very anxious to have the operation done under local anesthesia, but I promptly told him that if he insisted on it he would have to go to somebody else, as I would not do it. He finally eonsented to take a general anesthetic, and I removed his tonsils for him.

DR. DALY (closing on his part): I am glad the discussion has brought out the importanee of anesthesia. We all know about the methods of operating; they are personal to the operator. I suppose each man has found out the best way he can remove the tonsils. I omitted reading one paragraph in my paper in which I state that I do not like a woman anesthetist. I want a doctor who knows what he is doing when he is administering an anesthetic. I want a good man with me.

I was much interested in the long list of causes for tonsillectomy which Doctor Fort brought out. He gave us a list which would make us think that tonsillectomy was the open sesame of ill-health. We must bear in mind that we are making our living out of doing tonsillectomies and they are bringing these cases to us.

As to the two-step operation recommended by Dr. Lyle, it is excellent, but I have had the same experience that Dr. Terrell has had in the few cases in which I removed the tonsils under local anesthesia. In a few of these cases they have not hesitated to have the tonsil on one side removed, but when it came to the other side they could not be induced to have the tonsil attended to. If tonsillectomy is carefully done, the patient gets well in a comparatively short time. One point in my paper was getting the patient so quiet that you could get the work done without the least pull or twist of the instrument and with the smallest amount of trauma. Attention to these points enables you to get the patient in such shape that he gets well in two days after the operation.

I operated on a dentist last Friday morning, and Monday morning he was working at his chair. If we can get through without inflicting trauma with a general anesthetic and get these patients to submit to having both tonsils taken out, we should by all means do it.

DR. FORT (closing): I was rather amused at the statement of Dr. Daly relative to conditions demanding the removal of the tonsils by ear, nose and throat men. As a matter of fact, the average specialist is not as keen about removing the tonsil as is the internist who wants the ear, nose and throat man to remove it. I told a friend of mine that I did not think his tonsils should be removed; that he would get well with it. He replied, "If you do not remove them somebody else will." So with the attitude of the internist towards the tonsil as a focus of infection, we could increase the list by a

(Concluded on Page 41)

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"IDENTITY OF THE POPPY IN FLANDERS FIELDS."

To the Editor: A eorrespondent in The Journal, April 20, wondered whether Flanders poppies are of the opium kind. Yesterday in a New Hampshire ear I saw a loan appeal illustrated with a Flanders grave on whieh were red poppies with a blaek eenter. On talking about it, I learned that the poppy is eommonly regarded as the flower of sleep or of death. I enelose two quotations and a referenee to a pieture, Beata Beatrix, which is in the museum of the Chieago Art Institute:

On the grass of the cliff, at the edge of the steep,
God planted a garden, a garden of sleep:
'Neath the blue of the sky, in the green of the eorn,
It is there that the regal red poppies are born.
In my garden of sleep, where red poppies are spread,
I wait for the living, alone with the dead.

—*From a song by de Lara.*

Here are cool mosses deep,
And through the moss the ivies creep,
And from the craggy ledge
The poppy hangs in sleep.

—Tennyson: *The Lotus Eaters.*

The dove bears the poppy, symbol of sleep eternal, the death flower—to Beatrix as the sundial reaches its shadowless hour—Rossetti: Beata Beatrix.

F. K. Bryant, Chicago.

To the Editor: There would seem to be some doubt from recent letters to The Journal respecting the particular poppy "in Flanders' fields." This is Papaver rhoeas, the common red, or corn, poppy. It flourishes abundantly in the wheat fields of Europe, and many writers have remarked that the crop of poppies the season after a battle is increased. This is probably due to additional fertilization. The fresh petals are supposed to possess slightly nareotic properties. A syrup prepared from these petals has been used as a eoloring ingredient. Medicinally the plant is practieally valueless, and has of eourse **no connection with P. somniferum,** the opium poppy, which is the one so often mentioned in connection with sleep by the poets, as:

"The end of all, the poppied sleep" (Swinburne).

Franeis H. Mead, M.D., San Diego, Calif.

To the Editor: The discussion of the "Poppy in Flanders Fields" lately published in The Journal A. M. A., whieh has been of so mueh interest, may still have something as old as the "aeons," yet new perhaps and of interest to some. In the hope that this may in a sense be true, I submit this as additional knowledge, with no claim of originality:

The Latin **Papaver** has undergone changes in passing from remote antiquity into vernaeular use in later languages. Pap, for instanee, a milky substanee, a milk, a juiee, a food or soothing potion, for infants or ehildren. Poppy in the architectural sense, Poupee (Freneh). In the same sense poop, perhaps an extended use of poupee, the buneh of flax on a distaff. A erown graft. Particular use of poupee, a doll, a rag baby,

hence puppet or poppet. Poppy a plant of the genus **Paaveraceae,** of which there are many secies in America. It flourishes from Iceland to Mexico and South America, and from Western Europe into Asia.

Papaver somniferum, a native of Asia Minor (introduced by the English into India for the vast wealth in the opium trade, into Hong Kong). The sleep bearer alone of the species is the source of the world's supply of opium, not in the seeds as poetry, fiction and common belief has it, but in the milky juice of its unripe capsules.

The late Surgeon McCraes, destined to be immortal poem, refers to one species alone of this genus, **Papaver rhoeas,** corn poppy or corn rose, which is an annual and grows as a weed, wild, in the fields of Southern Europe and Western Asia, particularly in calcareous soils. Its petals are deep red or scarlet, with a dark eye. The capsules yield a milky juice, sedative demulcent and mild anodyne, probably due to **Rhoeadine.** The color of the petals is given to water and the seeds contain a fixed oil. In the double variety the colors alter, and when cultivated exhibit a riot of color and is known as the Shirley Poppy. The plant was cultivated by the Swiss lake dwellers. In floral language the poppy is symbolic of resignation, consolation an doblivion. According to Greek mythology, the plant was created by Ceres to soothe her grief during the long search for her daughter Proserpine, stolen and hidden somewhere in the Plutonian shades, as the wife of its keeper,

"Sleep bringing poppy, by the plowman late
Not without cause to Ceres consecrate
* * * * * *
Or since her daughter that she loved so well
By him that in the infernal shades does dwell
* * * * * *
Fairest Proserpina was rapt away,
And she in plaints the night, in tears the day,
Had long time spent; where no high power could give her
Any redress, the poppy did relieve her:
For eating of the seeds they sleep procured,
And so beguiled those griefs she long endured."
—*William Brown.*

From ancient time to McCraes sublime war lyric, the poppy has been associated with poetical romance, pain, sadness, sorrow, death and oblivion.

Homer mentions it as a cultivated garden plant which as a species was native to the shores of the Mediteranean—

"As full blown poppies overcharg'd with rain
Decline the head and drooping kiss the plain
So sinks the youth: his beauteous head deprest
Beneath his helmet, drops upon his breast."
(Pope the Iliad of Homer, Book VIII, 1, 371)

This metaphor was similarly used by Virgil who compares the dying Euryalus as he falls, his breast pierced by the sword, to the poppy, its head too heavy with the drenching rain.

"Like a white poppy sinking on the plain,
Whose heavy head is overcharged with rain."
(Drydens Virgil Aeneid, Book I", line 436).

Much later is to be found in Quarles Emblems V. S.:

"Behold thy darling, whom thy soule effects so dearly;
Whom thy fond endulgence decks
And PUPPETS up in soft and silken weeds."

Iago refers to it when he says:

"Not poppy nor mandragora
Nor all the drowsy syrups of the world
Shall ever medicine thee to that sweet sleep
Which owedst yesterday."
(Shakespeare Othello, Act III, Scene 3, 1, 330).

Scotias bard makes a beautiful and wonderful simile:

"But pleasures are like poppies spread
You seize the flower its bloom is shed."
(Burns Tam O'Shanter 1, 59).

Keats in his ode to "My Brother George" has as much truth as poetry; (in his day,) referring to the species in question:

"On one side is a field of drooping oats
Through which the poppies show their scarlet coats,
So pert and useless, that the ybring to mind
The scarlet coats that pester human kind."

The following lines are found in "The Tent on The Beach." The "Dolce far niente":

"To eat the lotus of the Nile and drink the poppies of Cathay."

Leigh Hunt calls it "the blissful poppy." It has been chosen as the emblem of alleviation of pain and troubles, both in theory and

in practice. Shakespeare, Spenser and others allude to it as the "easier of all our woes," and "the drowsy poppy."

"Gentle sleep,
Scatter thou drowsiest poppies from above;
And in new dreams not soon to vanish bless
My senses with the sight of her I love."
(Horace Smith).

It was an ancient Roman custom to offer poppies to the dead.

Virgil in Georgics directs the Lethaean poppy as a funeral rite to Orpheus.

To Sleep as his only ornament, the ancient Greeks bestowed a wreath of poppies. The Romans adorned the statues of Ceres, the deity of grain, with poppy flowers.

Richard Horne in "Orion" introduces the poppy blossoms as a symbol thus:

"He approached
And found the spot so sweet with clover flowers
When they cast them down, was now arrayed
With many-headed poppies,
Like a crowd of dusky Ethiops in a magic cirque
Which had sprung up beneath them in the night,
And all entranced the air."

Palladinus, Housbrondrie E E T S, p. 81, believes "Nowe poppy seeds in grounde is goode to throw."

C. Shockley has written a romance of the African veldt the Rand and London entitled "Poppy," while "Poppyland" is another by Stackpoole.

A strangely beautiful and entrancing picture by Piglehein, called "Blind" is that of a blind oriental woman groping wit ha staff through a field of red poppies bearing a large Eastern earthen jar, with "A face turned up from the sod." The writer once owned a copy of this wonderful picture, which was lost by fire.

Another picture among the many in which poppies figure is "The Ripening Wheatfield," by H. v. Volkmann.

In closing; the tender and pathetic lines of Julia Caroline (Ripley) Dorr are apropos:

"Come blessed darkness, come and bring thy balm
For eyes grown weary of the garish day
Come with thy soft, slow steps, thy garments gray
Thy veiling shadows, bearing in thy palm
The poppy seeds of slumber deep and calm."
(Darkness).

It is to be hoped that the statesmen and politicians will read and take to heart, remember and act upon the tragic prophetic poem of the late soldier hero and medicine man, who gave his life that England might survive and the poppies grow more crimson "In Flanders Fields." His lasting monument is the product of his lyric soul and facile pen, which will outlive man's artifice. May his last resting place be marked with a wreath of poppies in granite bronze, or silver, in addition to the cross.

St. Joseph Buford Graham, M.D., D.T.M.,
St. Joseph Buford Graham,
M. D., D. T. M., A. C. H.
Medical Research Laboratory, Grant Building, Atlanta, Ga.

DISCUSSION OF THE PAPERS OF DRS. DALY AND FORT.

(Continued from Page 38)

third, and gentlemen, when you see the tonsils which come to you in older people you are surprised that they had not been detected earlier in life and removed at that time.

As to always removing the tonsils under general anesthesia, I cannot agree with my friend, Dr. Terrell. In some instances, if you you are going to remove the tonsil at all, you must do so under local anesthesia unless you subject the individual to great danger.

For instance, only a few days ago the Vocational Board referred a man to me who was examined and found to have tuberculosis. It was stayed in its progress. To have given him a general anesthetic, such as ether or chloroform, would have endangered his life very much. It would likely cause a lighting up of the tubercular process, and to allow the tonsils to remain as they were would cause him to constantly absorb pus and to reduce his vitality very materially, and so we made use of a local anesthetic and got fairly good results. We were able to get all of the tonsils and had no secondary hemorrhage.

The list of causes I submitted was in the form of an abstract taken from the Johns Hopkins Bulletin, and I think it is a safe guide.

I thank you all very much for your discussion.

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The high percentage of deaths from infection by the *streptococcus hemolyticus* complicating pneumonia, warrants our calling attention to the importance of

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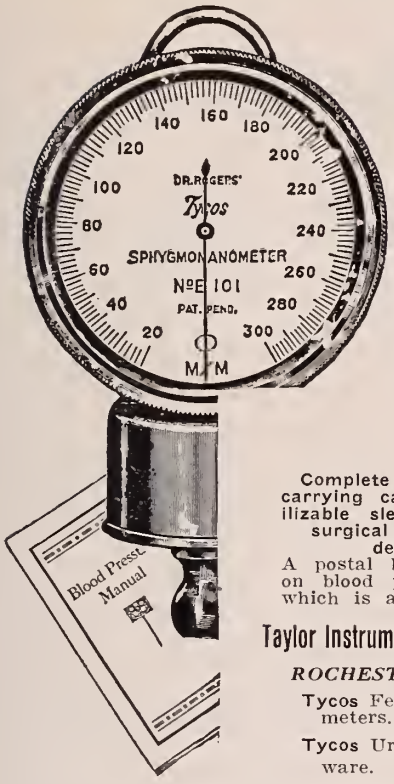
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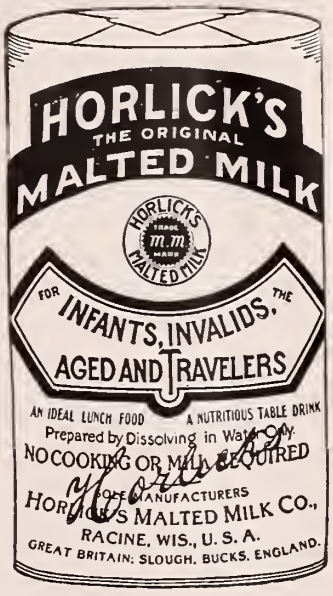
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ORIGINAL ARTICLES

WHAT CONSTITUTES AN X-RAY EXAMINATION.

George M. Niles, Ph. G., M. D., Atlanta, Ga.

Unfortunately, there is yet no absolute standard establishment for routine roentgen ray examinations, especially as applied to some portions of the human anatomy and its active viscera.

Many different ronetgenologists employ many and varied methods, so that a student who observes the technic followed at a number of medical centers is amazed at the wide divergence of opinion and routine.

Happily some order is gradually being evolved out of this chaos, and the day is probably not far distant when general roentgen technic will conform to an established standard, elastic enough to permit the expansion of ideas and ideals, but controlled by certain fixed rules, so that an x-ray examination with the report thereof will convey within itself a definite meaning.

The roentgen ray as a diagnostic agent is here to stay. It has suffered at the hands of unskilled technicians and inexperienced interpreters. Its mistakes have been many, and in some instances it has paved the way for grievious errors; but this science has always been climbing upward, profiting by past shortcomings, and constantly invading new fields of usefulness.

Remember that the principle of the x-ray was discovered less than a quarter of a century ago, while its practical application to the viscera of the body and the detection of calcareous concretions has been employed hardly ten years. Therefore, I beg of you not to be unduly impatient with this child of science, nor to expect it to spring forth into sudden perfection as did Juno, who sprang full-panoplied from the brow of Jove.

Let me, however, impress the general fact that what we get out of any investigation depends to a large measure upon how much thought and effort we put into it; so, with an x-ray examination, the information gained depends greatly upon whether this is thorough or perfunctory.

To "take an x-ray picture," and from that alone to build up a worthy diagnostic edifice is an entirely fallacious assumption. With the exception of a few easily-accessible or simple structures of the body, a single plate does not afford adequate information. More than one are needed, in some instances, many.

Aiming at the promotion of a better understanding as to what constitutes a real and illuminating x-ray investigation, I will lay down some rather general suggestions, perhaps not acceptable in their entirety, but, I trust, covering the field fairly well.

The bones.—The long bones should always, if possible, be roentgenographed in two positions—anteroposterior and lateral, remembering that the part next to the plate is most clearly delineated. Some injuries or deformities are met with, which preclude this being carried out to the letter, but in all cases an effort should be made to show these bones at more than one angle. The shoulder and hand can generally be well shown with one plate, but the foot should have the benefit of two positions. The spinal column and pelvis can usually be correctly portrayed by a vertical ray, though occasionally additional information may be obtained by tilting the tube and taking other plates. The hip joint should be taken with a vertical ray, the foot being inverted, and then, if practicable, an outward oblique view should be obtained. The head should be rayed anteriorposteriorly, and two lateral plates taken, so as to check up any differences in the two sides.

The lungs.—A single plate with a soft ray is generally sufficient provided the plate is of adequate size. Theoretically, stereoscopic views of the lungs are desirable, but practically they do not render additional information commensurate with the increased cost and time consumed. Stereoscopic plates

afford but about 6 per cent. more information than can be obtained from the flat plates. In the field of pulmonary diagnosis the roentgen ray is making good with marvelous rapidity.

The heart.—The fluoroscope is most useful in detecting hypertrophies or malformations of this organ, and especially expansile pathology of the aorta. This gives all the information that a plate affords, though the latter is useful as a permanent record.

Kidneys, ureters and urinary bladder.—This is a fertile and productive field for roentgenologic effort. Let me emphasize that an examination is not complete unless both kidneys and ureters are examined, for in a not inconsiderable number of instances the material pathology is found in the opposite side from which the discomfort is felt. It is important also that the stomach and intestinal tract of the patient be well emptied, otherwise shadows both confusing and misleading may appear in the field. After taking the first series, the plates should be carefully inspected, and, should any suspicious shadows be observed, one or more additional plates should be taken with a smaller diaphragm focussed over that area. Should any doubt still exist, an additional plate should be taken at a later date to show if the same shadow is still **in situ.** With careful technic, probably 90 per cent. of stones in the urinary tract should be demonstrated, though some pure uratic concretions are invisible to the rays. I might add that stones in the prostrate gland cannot always be shown, even though they be calcareous.

The gall-bladder.—This elusive viscus with its more elusive contents has been and still is the **bete noir** of the roentgenologist. I might state as a generally accepted principle that a normal gall-bladder with a normal content of bile is invisible to the rays. Therefore, when we obtain a definite shadow of this organ, either smoothly rounded or deformed in appearance, we may assume that pathology exists there. Should it contain stones with some admixture of calcium, they may be shown; but unfortunately a pure cholesterin stone casts no shadow whatever. Failure to demonstrate gall-stones does not negate their presence, but when they do show, they are there beyond a peradventure. Let me add that the gall-bladder may be situated anywhere from the twelfth rib to the crest of the ilium, therefore the search should not be confined to the right hypochondrium alone. I would consider six plates a minimum in gall-bladder exploration, and I not infrequently take as many as fifteen to thirty before I find the object of my search. I employ rays of varying penetration, taking at one time two to four plates superimposed over each other. In one instance I took eighteen plates, seventeen of which were as barren as the desert of Sahara, while one showed the ardently-sought-for object in all its pristine beauty and clarity.

Searching for gall-stones is not a lucrative task, but with patience and perseverance, probably 70 per cent. may be shown, where they exist, while an infiltrated or pathologic gall-bladder, I believe, can be demonstrated in over 80 per cent.

The esophagus.—It is necessary that an opaque substance be introduced into the esophagus and gastro-intestinal tract that these structures may be visualized through the fluorescent screen or delineated upon the plate. Barium sulphate has come into almost universal use for this purpose, and buttermilk is the principal vehicle in which the barium is administered. The passage of the buttermilk-barium mixture can be clearly observed as it races down a normal esophagus, and just as clearly when an obstruction, either organic or spasmodic, impedes its progress. The patient should be viewed obliquely or rayed in the same position, so as to catch the shadow of the esophagus between the heart and spinal column. Stricture of the esophagus with consequent dilatation above, a diverticulum, or the narrow and ragged line indicating malignant involvement—all these are readily shown by the x-ray.

The stomach.—This famous, but much slandered viscus, lends itself readily to x-ray examination. The flouroscope will show the general size, shape and position of the stomach, spasms or adhesions of its body, or those interfering with the mobility of the pylorus or duodenum. Parenthetically, let

me state that to all intents and purposes the first two or three inches of the duodenum should be considered as a part of the stomach. Some good observers lay much store on fluoroscopy of the stomach, claiming to obtain as much information therefrom as from plates. Individually I dissent from this view. To apprehend the fine details of organic gastric or duodenal pathology, plates —the more the better, are essential. I would consider **three** plates taken in quick succession after the ingestion of the opaque meal as the minimum; and five to eight are better. The three-hour plate is not of much service, except in hypertonic stomachs, or where the pylorus is unduly patulous. If there is any question as to the emptying of the stomach on schedule time, a four-and-a-half hour plate is indicated, and if retention is then shown, other plates at longer intervals should be taken.

The constantly-changing contour of the stomach is almost as expressive as the varying appearance of the human face, as it graphically depicts underlying emotions. As the photographer takes many negatives to catch some particular facial expression, so numerous roentgenograms of the stomach will enable the observer to detect the varying gastric emotions, whether they be of joy or of woe.

The intestines.—The whole of the duodenum cannot always be shown, for some of it lies behind the stomach. Its proximal portion appears slightly fan-shaped, and dilatation or structure or deformities of the first two or three inches are easily portrayed.

The passage of the opaque meal through the jejunum is so rapid, and it is so admixed with the intestinal juices in their free secretion, that here we see it in feathery flakes. When it reaches the ileum it assumes more consistency, so that the coils of this part of the small intestine can be easily followed. The cecum is seldom filled in less than six or seven hours. The twenty-four hour plate generally finds the meal entirely in the large intestine, and any considerable residue in the ileum would denote stasis there. Should this plate give insufficient information, a colon injection is indicated. Two quarts of the opaque solution is a sufficiency, and this may be introduced through a tube whose nozzle is only two inches long—just long enough to pass the internal sphincter. As by this procedure the whole colon, cecum and all may be completely filled, and in the presence of ileocecal incompetency, much of the ileum, it argues that the employment of the long rectal or colon tube for so-called "high injections" is not only fallacious but absurd.

Plates of the intestines afford information as to material changes in position and contour, but the fluoroscope is of more value in detecting adhesions in the abdominal cavity.

The appendix.—A normal appendix should fill in from ten to twenty-four hours, and can generally be shown, provided it is not post-cecal. Where, however, the lumen of the appendix has been closed by catarrhal inflammation, where it is acutely angulated as it leaves the cecum, or where it is tightly bound to some adjacent structure by adhesions, no barium can enter, consequently it cannot be seen.

Failure to distinctly show the appendix is not conclusive for good or evil, but where it is visible in acute angulation, where it shows adhesions at its tip or some portion of its continuity, or where it presents an irregular or jagged outline, or is irregularly filled, an assumption as to pathology there is justified.

Interpretation.—This is the keystone of the whole diagnostic arch, and should be undertaken only by those who have had much experience in the study of x-ray findings. Attempted interpretations by those who have studied but few plates, whose roentgenologic horison is limited, and whose knowledge has not been rounded out by seasoned reflection over such problems, fail to grasp the significance of both plates and fluoroscopic appearances. Such interpretations are not only of doubtful value, but tend to bring reproach upon the worthy science of roentgenology. X-ray reports are respected according to their intrinsic value, and such reports should be the fruit of careful technic, of painstaking investigation and earnest thought over the findings of the problem under consideration.

(Read before the Medical Association of Georgia.)

DISCUSSION ON THE PAPER OF DR. NILES.

Dr. W. A. Cole, Savannah: Dr. Niles has so beautifully covered the ground in this line of work that he has left very little for me to add. However, from my point of view, there are one or two points that might be brought out which he did not mention, first, the x-ray in the diagnosis of kidney conditions. I agree with him fully that all cases should be examined carefully, both kidneys, both ureters, and the bladder. This is imperative, owing to the fact, as he says, pain or other discomfort referable to one side quite often or not infrequently is complained of, and the pathology is on the opposite side.

There comes to my mind one or two things he did not mention or I did not catch. First, these stones which form a small part of the number of stones in the urinary tract are composed of either uric acid or urates. It is almost impossible to show these stones by the ordinary means. There is one method by which they may be brought out, and that is by the injection of thorium or collargol to bring out the shadows, not that it brings out the shadows themselves, but the thorium fills up the ureter or pelvis of the kidney, and leaves a fair space where the stone may be which leads to the diagnosis as well as showing the stone itself. On the other hand, after thorium has been used for say twenty-four hours time, another roentgenogram may be taken and sufficient thorium will be found to have adhered to the stones and in a great many instances bring out the outline of the stones themselves. I have had this happen several times.

Another condition which may be brought out, and of which I have had two cases in the last two months, is bleeding from the kidney, and thorium was injected and a papilloma of the pelvis of the kidney was shown. I have only had two cases of this kind within the last six months and both were proven to be such surgically.

A case came to my attention yesterday which I think deserves mention as it comes under the head of foreign bodies. This was the case of a child, eleven months of age, who had gotten the tin star off of a package of tobacco and got it in its mouth. The star had passed in and the mother attempted to get it but failed. Three days later the child was brought to the hospital for examination. I found the star at about the line of the angle of the jaw with the fluoroscope, and believe me, the surgeon worked in there for about two hours without any signs of getting the thing removed. The child was brought to the x-ray room and flouroscoped twice, and by passing a bent probe through the nostrils we could get it in contact with the star. We pushed it down into the pharynx, where it was grasped by the surgeon, and readily removed.

Dr. J. J. Clark, Fort McPherson: I want to disagree with one of the points made by the first speaker and to emphasize the stereoscopic plate, especially in chest and head work, also in all spine work, hip joints, shoulder joints, and any joint where you cannot get the typical antero-posterior and lateral view.

In making a diagnosis of tuberculosis, unless the disease is far advanced, really the x-ray is of no value as an aid, and the clinical diagnosis is very readily made. A stereoscopic plate should be made in these cases.

In hip joint conditions, and in shoulder joint conditions, the sacroiliac joint, and sometimes around the elbow joint and angle of the jaw, you must again have stereoscopic plates; so that you can place your lesion and outline the bones and determine just exactly what you are after.

In examining the kidneys one of the most important things is the thorough preparation of the patient beforehand, as so many times foreign bodies in the intestines, collections of fecal matter, will give shadows of stones.

Another thing is, that a diagnosis of stone in the kidney or in the ureter should not be accepted from an x-ray standpoint alone, unless there are a sufficient number of stones in the kidney, and you can also find them in the bladder without cystoscopic examination, followed by the injection of thorium or some of the iodids for proof. By making stereoscopic plates a stone lying along the course of the ureter can be readily detected

in the ureter or along the catheter in front or behind it.

The intensification of the stone is another thing which helps a great deal. By injecting thorium if the stone is not there, if you have a negative report, and after examination you cannot show stone, if you will inject thorium or iodid, as Dr. Cole mentioned, it will intensify the shadow by simply coating the stone which is present. Stones of uric acid are probably present in only five per cent. of the cases; the rest of the stones are all mixed material, either urates, phosphates, or oxalates, and they will generally show.

With reference to the diagnostic kidney plate, what is it? The only way a diagnosis should be accepted from an examination of the kidney is a plate which will show the outline of the eleventh and twelfth ribs, the transverse processes of the fifth lumbar vertebra, the psoas muscle, and the kidney itself. Until that is done the diagnosis cannot be made of a renal calculus.

Going back to chest work again, especially in the empyema cases, of which we saw a great many in the army, there will be many patients turned back into civil life and in these the stereoscope will come into play for outlining cavities and deciding which way the sinuses run, and if you care to inject the cavity you can do so.

Dr. Niles (closing): I thank the gentlemen for their courteous discussion of my paper, and in regard to one point made by Dr. Cole I did not touch upon the detection of foreign bodies because this is a field within itself. Furthermore, I may say that my paper was of a general character, and any one of the subjects which I mentioned was worthy of a separate paper by itself.

We have to bear in mind that the getting of shadows from the roentgen ray is a matter of comparative density of an object as compared with the surrounding structures. If the structure is of greater density, then we get a shadow; if it is of less density, we do not. All gray cats look alike in the dark, and sometimes when you get a shadow you think it is of the same density as everything around it, but that is a matter of impossibility. We can show a metallic object without trouble, but when we say we can show a grain of corn or something like that, or a pea which gets down into the respiratory tract, it is not true.

One thing that is not apprehended by all is in regard to showing false teeth. Some of these aged sisters make a mistake and swallow some of their false teeth. That has happened in several cases that have been brought to me. A celluloid plate with celluloid teeth will not show at all unless there is some metallic band or pin, and we have been put to much trouble on several occasions to show false teeth when we knew they were there and could not show them.

In regard to the second gentleman's discussion, I will say that stereoscopic methods are no doubt helpful. When we can show an object in its third dimension, of course it is always helpful and we want to do it when we can.

As regards stereoscopic routine work, there is a wide difference of opinion among good authorities. You will remember that I mentioned my views as to the value of the stereoscope were not unanimous by any means, as there are some good men who disagree with me altogether.

Very recently I saw an article by a good man who gave a report of 3,000 plates for comparative study, and of this number there were 1,500 stereoscopic plates; and the advantage of the latter was only 6 per cent. according to his statistics. If a man has the time and disposition to use stereoscopic plates, he will gain a certain amount of additional information, but it depends upon what school a man studies in and the methods he has been taught. There are some schools which lean largely towards stereoscopic work in practically everything, while there are others who do not lean that way, and if it is towards the stereoscopic plate or other methods, as mentioned, the pendulum will gradually swing, and it will be settled one way or another.

Roentgenology has its field of usefulness, and those who study it thoroughly and carefully will get the most out of it, and some of the methods found to be imperfect will naturally go into the discard later on, while better methods will be employed, as in every

form of human endeavor, and will eventually succeed and make their imprint indelibly upon scientific medicine. I thank you.

EMPYEMA: ITS DIAGNOSIS AND MANAGEMENT.

By Eugene Murphy, M. D., Augusta, Ga.

Empyema, or as many prefer to call it, acute supperative pleurisy, has within the past two years assumed a clinical and surgical importance hitherto unknown. Whether this be the result of the more careful and accurate observation made possible by army control or whether the condition itself is actually on the increase is problematical, but certain it is that empyema as a complication of pneumonia has been one of the gravest problems which the army physician and surgeon has had to solve, and similarly there seems to have been an actual increase in the number of cases occurring in the civilian population.

The recognition of the streptococcus hemolyticus as the determining organism in a great many cases is a comparatively new thing and those types of empyema which are caused by this particular organism seem to differ materially from those caused by the pneumococcus, the difference consisting chiefly in the greater prostration of the patient, the more rapid accumulation of fluid, the rapid developments of a grave toxemya and a much higher rate of mortality.

It has been my privilege to follow closely the care and study of a series of 162 cases and it is upon my experience with these cases that the conclusions presented for your consideration herein are based. The first striking outbreak of empyema in the hospital where I served during the late war occurred as a complication of measles, broncho-pneumonia, in which-pneumonia, the streptococcus was found to be the determining organism. These pneumonias were of the type of peri-bronchial infiltration so well described by McCallum in his monograph with which most of you are no doubt already familiar. The profound prostration of these patients, their extreme toxemia, their rapid loss of weight, cyanotic flush presented a clinical picture differing radically from the ordinary pneumonia-empyema with which we were familiar in pre-war days.

A striking feature of these cases was the extreme rapidity with which large quantities of fluid would collect within the pleural cavity, 1,000 c.c. or more having frequently been observed to collect within a period of 24 or 36 hours.

Unless this condition is promptly recognized, patients passed on to a rapidly fatal termination. Even with early recognition, our first results were disappointing in the extreme and a mortality of 60 per cent. or more was common with this type of case, not only in my own series but in similar cases in other hospitals. The best surgical teaching advocated prompt resection of one or more ribs and a thorough drainage of the pleural cavity, but the results in cases so treated were so unsatisfactory that the physicians and surgeons working conjointly on these cases began to have grave misgivings as to the propriety of resection as a measure of relief, accordingly it was decided to take a series of 15 cases and treat them by repeated aspiration with a potain aspirator, removing the fluid as rapidly as it re-accumulates.

Of this series of 15, three died, five were, after a long time, subjected to surgical intervention and of the remaining seven, six recovered with complete obliteration of the pleural cavity on the affected side and one was discharged from the service after a prolonged convalescence complicated by an abscess of a lung. This procedure repeated potain with irrigation with normal salt solution pumped into the pleural cavity and afterward withdrawn, seemed to be more satisfactory than early resection, but was still far from satisfactory to the attending staff. As the next procedure it was decided to take another series of cases and treat them by the insertion of a trochar and canula, the latter large enough to carry a No. 25 French Nelaton Catheter, clamping the catheter after insertion to prevent pneumothorax and draining off the fluid at intervals of several hours so as to avoid too sudden and great a change in intra-thoracic pressure.

These cases responded to treatment much

more satisfactorily than those which were resected or potained or in which a simple pleurotomy with the insertion of a large drainage tube was done. So gradually there evolved a technic of operation and a system of treatment of this class of cases which has given results so satisfactory that those of us who have colaborrated in the work feel that it is worthy of presentation to yon for your consideration.

Early recognition of the condition is of utmost importance and should be insisted upon. The temperature chart often gives us first indication that something is going amiss with the patient. The majority of cases develop rather late in the course of pneumonia and at a time when the temperature has already begun to decline. There may be a distinct chill or even more than one, but more commonly the patient complains of chilliness and there is a sharp rise in temperature, which temperature soon assumes a characteristic septic curve. Within 24 hours after this initial rise of temperature, careful examination will generally reveal the presence of an accumulation of fluid in the chest. This examination should include always a careful inspection of the chest wall in a good light, at which time fixation of the chest wall on the affected side is invariably apparent, accompanied in most instances by absence of Litten's sign.

Displacement of the heart need not be expected early, as it does not occur until a very considerable accumulation of fluid has taken place. A careful percussion is of great value in determining the location and extent of fluid and should always be done with a very light stroke, whether one is using finger percussion or, as I think preferable, a drop hammer percussion. This lightness of stroke is essential in order not to bring out the resonance of underlying lung structure containing air. Of equal importance is the careful study of tactile fremitus and vocal resonance both of which are diminished, or where the collection of fluid is considerable, absent. Of the two, the alterations in vocal resonance seem to have been the more dependable as a diagnostic point.

We are inclined to lay particular stress upon the occurrence of Egophony, which, if carefully sought for, will nearly always be found and is proof conclusive of a thin layer of fluid. After a physical is completed, the patient should then be subjected to direct study under the flourscope and if possible in the sitting posture. The flouroscopic examination lends invaluable aid and is complimentary to the physical examination. For purposes of record or for further study of the case, stereoscopic x-ray plates are used and not infrequently furnish additional evidence, but we have found that the study of the chest under the flouriscope, enabling us, as it does to observe the movements of the diaphragm, the variation in the radiability of the chest on inspiration and the changes induced by posture in the level of fluid give us data, which neither the flat nor the stereoscopic plate can supply.

When all these procedures have been properly carried out, there is little possibility that the presence of fluid in the pleural cavity can be overlooked.

Then as a final determining factory in diagnosis, aspiration with a fairly large needle and a luer syringe should be performed and the presence of fluid definitely established.

I should like to stress, however, the importance of accurately localizing the fluid before the aspiration is performed and also to call attention to the fact that aspiration of a thorax is in itself not necessarily a harmless procedure; cases of sudden death have been known to follow simple aspiration of the thorax and the possibility of injuring lung, diaphgram or liver needs to be borne constantly in mind and certainly there is no excuse for repeated aspirations over the whole thorax until the unfortunate individual resembles a collander when accurate localization is possible before the needle is introduced.

Having determined the presence of fluid, it is considered advisable to wait until it becomes somewhat thick before instituting our permanent drainage. The presence of a serous exudate in the pleural cavity is not considered justification for surgical interference unless it changes into pus or unless it becomes so considerable in amount as to

give rise to urgent pressure symptoms. In other words, simple pleural effusions are best left alone.

Having determined that the time for the institution of drainage has arrived and having previously accurately localized the zone of fluid, the introduction of a trochar and canula under local anaesthia should be done in the most dependent interspace of the involved area. The trochar is then withdrawn and a rubber drainage tube of a diameter 25 French or larger, is inserted, but no attempt is made at this time to empty the cavity. The tube is clamped with an ordinary artery forcep which is held flat against the chest wall by two strips of adhesive, pad of gauze applied over forcep and tube and patient is sent back to bed.

We now have a permanent drainage installed through which, by the simple procedure of opening the clamp, he may be drained at will. It is not considered advisable to attempt to empty massave effusions at the time of operation, or to drain them entirely at any one sitting, but at intervals of several hours, the clamp is loosened, the patient rolled on the affective side and thus little by little of the fluid drained off. This procedure is usually followed by a very prompt fall of temperature and by a marked sense of well-being and added comfort on the part of the patient.

It is not considered advisable or necessary to keep the patient in a Fowler's position as is the case where continuous drainage into a water bottle is carried out, but between the intervals of draining, the patient is permitted to assume any position which he finds most comfortable and there is no appliance or apparatus to restrict the freedom of his movements in bed.

After a few days, the pus cavity generally becomes well walled off and discharges only small amounts of pus. When this occurs, irrigation with Dakin solution may be instituted and in our opinion, is of value. It is not considered advisable to do irrigation with Dakin's or any other solution so long as the fluid is free in the pleural cavity, but by this interval method of drainage, the cavity is approximately empty at the end of 48 hours.

When the cavity is walled off, irrigation may be used with the same precautions as in the abdominal cavity, but it seems to be established that as the pleura returns to its normal condition, Dakin acts as an irritant and therefore there is a definite period when the irrigation could be discontinued. If a continuous irrigation is desired, from 250 to 500 c. c. is liberated from the container by the drop method every two hours; if it is desired to use interval irrigation, it should be employed three or four times in 24 hours and the cavity irrigated until the fluid is returned clear. Dichloramin T in a nebulizer filling the cavity with the vapor has proven very successful in some cases and normal salt solution may be used in those cases which show Dakin irritation.

We have found that a fairly accurate check may be kept upon the conditions within the abscess cavity by making bacteria count from the secretion from the inner end of the tube and when the count reaches as few as 1 organism to two fields of the microscope we feel that the time for the removal of the tube is at hand. These counts are made on alternate days and three low counts on successive days may be considered fairly convincing as to the content of the pus cavity.

As soon as the patients are able to be up, they are encouraged to get out of bed and as soon as their strength permits they are put upon a system of graduated setting up exercises. These are of great value in preventing a muscular atrophy which is so pronounced in these cases if they are permitted to sit around the hospital and use their muscles not at all. Of the utmost importance in the management of these cases is the question of forced feeding.

The moment that the acute phases of the infection are at an end, we take 3,000 calories of a high protein diet as a mark which we wish to attain and in consequence, these cases do not show the initiation which ordinary light diet would permit them to exhibit. They are encouraged, urged and entreated to eat as much as they can bring themselves to take. It is believed that the daily administration of whiskey or brandy before meals is of considerable benefit, first

by increasing the appetite and second by furnishing a certain caloric value of its own.

Of the series of 160 cases, 154 were subjected to some kind of operative procedure and the remaining cases not included in this tabulation were cases which were overlooked by the ward surgeon and discovered postmortem or else by reason of the extremity of their condition died before operative procedures were instituted, so that so far as treating cases are concerned, my series consists of 154 with 26 deaths. I have here a chart which shows the case incidence and the number of deaths and also the date at which rib resection was abandoned. From December, 1917, to May, 1918, there were admitted 60 cases with 22 deaths; the last primary rib resection was done in May, 1918. Since that time we have lost only four cases, using the method above described, although from May until the present date there have been 90 admissions.

An interesting factor in connection with the bacteriological study of these cases lies in the fact that in many cases where the patients are up and around and well on in the process of convalescing that the streptococcus has been recovered from blood cultures and that the streptococcus disappears fairly early from the exudate in the chest, although at the height of the effusion, the streptococcus is generally recovered in pure culture from the pleural cavity, the streptococcus has disappeared from the fluid in the chest cavity, the predominant organism is a bacillus of the proteus type. This is interesting by reason of the fact that this particular organism is a mouth and intestinal tract germ and its occurrence persistently in the pleural exudate would seem to make justifiable the conclusion that the bulk of these pneumonias, especially those occurring in measles and influenza are insufflation pneumonias in which organism from the mouth and upper air passage are drawn down into the lungs during paroxysms of coughing and then begin their activity.

I desire to lay before you for your consideration the following points, which seem to me conclusive in favor of trochar and canula drainage in place of costatectomy: 1st, that pneumothorax is avoided, except a small pneumothorax at the apex of a walled off cavity; 2nd, that a general anaesthetic is unnecessary, since with local anaesthesia the operation is practically painless; 3rd, that by interval drainage with a clamp we are able to do away with the necessity of a Fowler's position and allow the patient the same freedom in bed which would be permissible if he were not an operative case; 4th, that the time of convalescence is very materially reduced; 5th, that the restoration of a lung on the affective side is almost a certainty, whereas, with costatectomy, restoration is problematical; 6th, that this procedure facilitates the walling off of the effusion and the agglutination of the pleural surface, thus limiting the area to be drained to a small proportion of the thoracic cavity.

In conclusion I desire to stress particularly the early and accurate localization of fluid, the determination of whether this fluid be serum or pus, that costatectomy means pneumothorax and that in the adoption of the procedures above enumerated that we are following sound surgical practices based upon our present knowledge of the pathology of this disease.

It is believed that the management of cases of empyema conducted along these lines will result in a marked dimunition of the mortality and add materially to the comfort of the patient and to the shortening of his stay in hospital.

(Read before the Medical Association of Georgia.)

MEDICAL INSPECTION OF SCHOOLS.

By M. M. McCord, M. D., Commissioner of Health, Rome, Ga.

Is medical inspection of schools worth while? Is it important to the future citizenship of this State and nation that the health of children should be protected? Is there any other means at our command more worthy of consideration?

These questions are asked in order that we may, at the very beginning of this paper, grasp the possibilities and great importance of any work which has for its object the conservation of the health and lives of our children—the nation's greatest asset.

There is a two fold purpose in medical inspection of schools: the protection of healthy children from those who are infected

and the detection of physical defects in those who have them.

If we could have a correct statistical report of all deaths of children in this State, it would be alarming to us to know the hundreds of them who contract these diseases by exposure in the public schools. Why should we be alarmed or surprised when we take into consideration that in less than 5 per cent. of the school children of the State is there any protection whatsoever thrown around the schools? If a child is too ill to go to school he is kept out by his parents, and returned to school as early as he is able to go, regardless of what the infection in his case might have been, and also with no regard as to whether or not it is safe for the children in school for him to return. No question is asked by the teacher and no one authorized to say whether or not he should, as a safety to the others, be allowed to return at that time.

If one pig contracts cholera, the stock-raiser at once removes that hog from the drove and keeps him well isolated from the healthy animals far beyond the period of recovery, until there is not the slightest possibility of infecting the others, yet in many of our public schools, where there is no medical inspection, thousands of children return to school and subject the healthy children to exposure at the most virulent period of the attack, and as a result, a general epidemic follows with, very often, some children to pay the price of their lives, on account of somebody's carelessness.

When will the liberty loving American homes put a price on the life of a child? When will our people recognize the rights of healthy children to be protected from infected ones? In some schools where there is no supervision by a competent medical inspector, the writer has known of some parents returning their children to school during the contagious period with the remark: "My children are going back to school. If the parents of well children don't want them to come in contact with mine, let them keep their children at home." That remark is typical of the attitude usually taken in communities where there is no medical supervision. What are our medical men doing that such conditions exist? Why will our boards of education and superintendents of schools, who are supposed to represent the physical as well as the intellectual and moral interests of our children, not start a movement to protect the health and lives of children under their jurisdiction? I have observed in many cases that the average board of education and school superintendent is like many of our other people; they think that reading, writing and arithmetic cover the entire field of their duties, and they push the three R's and act indifferently in matters concerning the physical welfare of the child, even if 10 per cent. of the school children under their direction die of some communicable disease which they could have prevented by using sane methods.

What is the remedy for the lethargy of boards of education and school superintendents in such vital matters as this? First, create a public sentiment for medical inspection and elect such board members and superintendents as are in sympathy with the movement and will give it their co-operation; second, if you already have a board which is affected with "lethargic encephilitis," get such a strong public sentiment behind them that it will broaden their horizon beyond the three R's and let them know that it is their duty to co-operate in any movement which has for its object the betterment of children in the public schools.

In addition to the medical inspector's visits, which are weekly in the Rome schools and at least once a term in the rural schools, the teacher of each grade or department makes a daily inspection of all the children in her department and promptly excludes any who are suspicious of having a contagious disease, or who has had a contagious affection but has not remained away from school during the entire exclusion period for such disease. All questionable cases are required to either go to the family physician or the medical inspector for examination, and if cause is not sufficient for exclusion, the child is given a certificate to that effect and he returns to school.

By this means the medical inspector and the teacher are able to keep in close touch with each individual child, and if one drops

out of school, an investigation is made at once to ascertain if anything contagious has kept the child away. Every physician phones the medical inspector immediately when he finds a contagious disease in a home where there are school children, and the medical inspector in turn either communicates with the superintendent or with the teacher direct, in order that proper exclusions from such a home may be made for the exclusion period. Everything is done to protect healthy children from those who are infected, therefore as a result, many epidemics among children are prevented and many lives saved.

There is another side to medical inspection equally as important as protection from contagious diseases.

Our recent army draft should clearly indicate to any broadminded person, the fruits of our neglect among the schools of our nation in past years. When 35 per cent. to 40 per cent. of the young men were declined by the army exemption boards on account of not being physically fit for service, it is time that something be done to ascertain what has happened to the young men of our country. Many of these men were completely unaware that there was an unsound spot in their bodies, yet the defect was there. If these young men are physically unfit for the army why are they also not largely unfit for the duties of civil life? What is true of the young men is to a great measure also true of the young women.

When did these young men become physically unfit? It was not yesterday nor last year, but largely a result of neglect in early childhood. Most parents give their children very little consideration, so far as their physical welfare is concerned, unless in an emergency to call a physician or see a dentist. If the complaint or defect is not a painful one very little attention is ever given the child.

There are thousands of boys and girls throughout this state who are spending from two to three years in one school grade. The teacher thinks the child is naturally stupid, and the parent thinks the teacher is no good, and so it goes on down through the corridors of time, wasting effieiency. This state probably spends a hundred thousand dollars every year trying to educate children whose defects are so damaging that they cannot grasp an education, yet we cry economy. Let the state spend some of that money in educating children and their parents on the vital importanee of correcting the defects before trying to "cram" an education on the three R's into the child's stunted undeveloped brain.

There are hundreds of blind and deaf men and women in this state who could have had the normal use of such faculties if proper heed had been taken in the early school days. The parents will not take time to have their children examined unless something visible develops; then it may be too late, so are we going to allow thousands of boys and girls grow up to manhood and womanhood every year with damaging defects which destroy their efficiency and absolutely unfit them for life, just because the parents are either too ignorant, too indifferent or too stingy to have their children examined at least once a year? The efficiency of any community depends on each individual of such a community. When 40 per cent. of our children are growing up with damaging defects it means that we are allowing 40 per cent. of our state to become populated with a class incapable of becoming efficient along any line.

There is no better way to reach all the children than through our public schools. A medical inspector should be employed for each county, also in large towns and cities there should be a separate medical inspector employed for the city schools. Every child should be given a physical examination once during each term, a record kept of such an examination and a report of such an examination to the parents of all children found defective. This is information to 90 per cent. of the parents who are not aware that their children have a defect whatsoever. Many of the parents are glad to get the report and take advantage of the earliest opportunity to have such a defect corrected.

In my work in the public schools of Rome and Floyd County it was soon found that many people were careless about having defects corrected, even after notice of defect was sent them, therefore it developed that in order for medical inspection to bring good

results there must be follow up work by a competent nurse. This matter was brought to the attention of different organizations and individuals, and plans were soon in process of action for putting on a nurse.

After visiting the public schools for two years I found that about 25 per cent. of defective children were unable to pay a physician or dentist for correcting their defects. It was decided that to meet the demands of such conditions, a child's free clinic must be established, for it would not do to allow 25 per cent. of all defectives to become a liability to the homes and the state when in fact they should be an asset.

A quick response followed from every organization in the city and county when the purpose of the clinic was explained, so in a very short time all necessary funds were in hand. The surgical, medical and dental outfit were purchased and the clinic located in a suite of beautiful rooms in the newly constructed Municipal Building.

Every physician and dentist in the city volunteered his services to the clinic, a competent clinic and follow up nurse employed and the good work began.

Since the Children's Clinic opened July 1st, 1918, something like 400 children, from homes not able to pay, have been treated at this clinic and given a chance in life.

There is a fine auto-ambulance operated by the motor corps of the Red Cross, which takes the surgical cases home from the clinic after they have sufficiently recovered from the anesthetic.

This clinic is the pet of every person in Rome and Floyd County. There are not any, more enthusiastic in the splendid work of medical inspection and the children's clinic, than the teachers in the public schools. They see the little defectives struggling for an education before defects are corrected, and they then have an opportunity to see new life and vigor in them after defects are removed. Many teachers have frequently stated that it is hard in many cases to realize, a month or two after treatment, that they are the same children who sat in their school rooms a few months previous to that.

The greatest possibilities in public health work is with the children and the best place to do that is in the public schools where you can have some legal authority for your efforts. If I could not do any more than inaugurate a system of medical inspection of schools, a nurse's follow-up work and the children's free clinic, I would feel well repaid for all efforts put forth. No amount of money judiciously spent in educating children on the vital principles of health, or in conserving the health and lives of children is ever short of a great investment for any community.

(Read before the Medical Association of Georgia.)

OPERATIVE TREATMENT OF RETROVERSION OF THE UTERUS.

A Review of 185 Operative Cases.

By Garnett W. Quillian, M. D.,

Visiting Gynecologist, Grady (City) Hospital, Atlanta, Ga.

The subject for my paper was suggested a few weeks ago when in conversation with a friend, a general surgeon, I remarked that I was on my way to the hospital to correct a retro-displacement of the uterus, and he with apparent surprise asked if I had ever found an entirely satisfactory method of performing this operation.

The method which I have used exclusively for the past five years, a modification of the Gilliam in combination with several other methods, (there have been between 55 and 60 different operations described for the correction of this condition) has given such perfect satisfaction in my series of cases that I am pleased to give a brief description of the operation as I do it.

This operation contemplates: 1st, the restoration of the uterus to its natural position with normal mobility; 2nd, the permanency of the correction; 3rd, the relief of distressing symptoms; 4th, the non-interference with pregnancy, parturition, or the pueperium; 5th, the absence of post-operative complications such as intestinal obstruction, etc.

Since the uterus is maintained in a normal position in the pelvis by three mechanical influences: 1st, the ligamental supports; 2nd, intra-abdominal pressure; 3rd, the walls of the vagina, we are forced to consider all

FIRST STEP, SHORTENING THE UTERO SACRAL LIGAMENTS

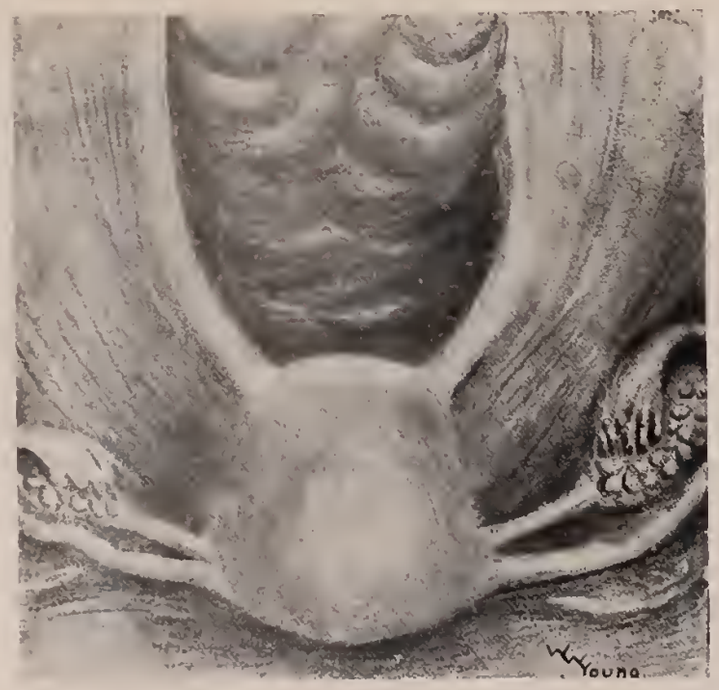


Fig. 1.

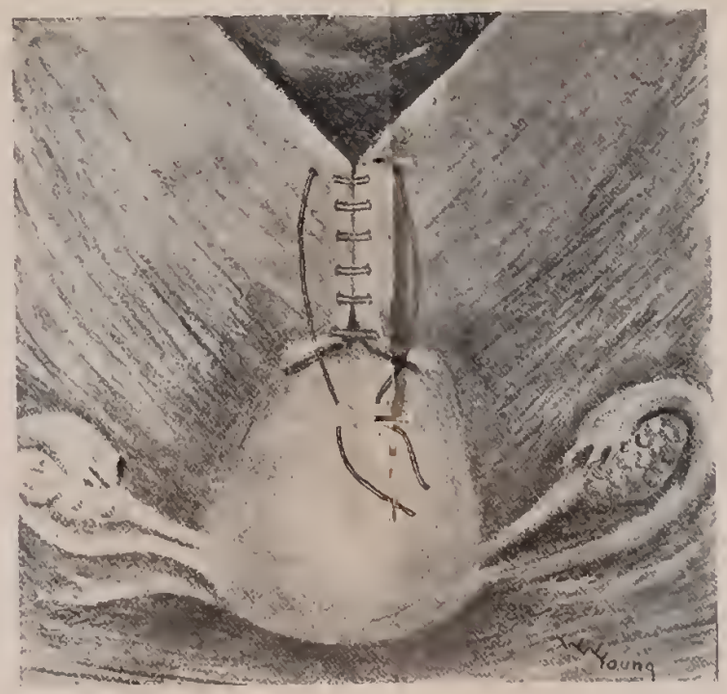


Fig. 2.



Fig. 3.

SECOND STEP, SHORTENING THE ROUND LIGAMENTS



Fig. 1.

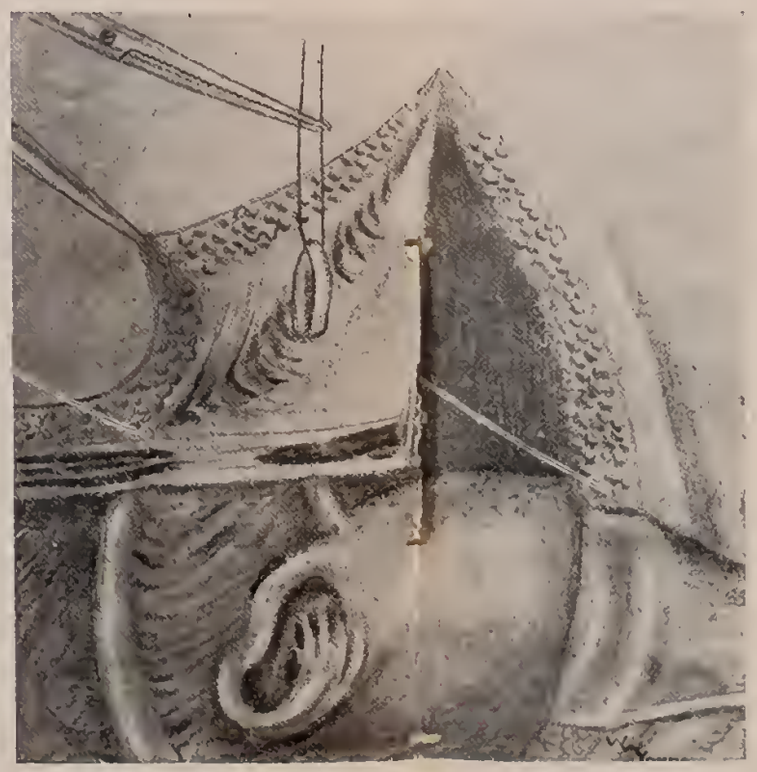


Fig. 2.

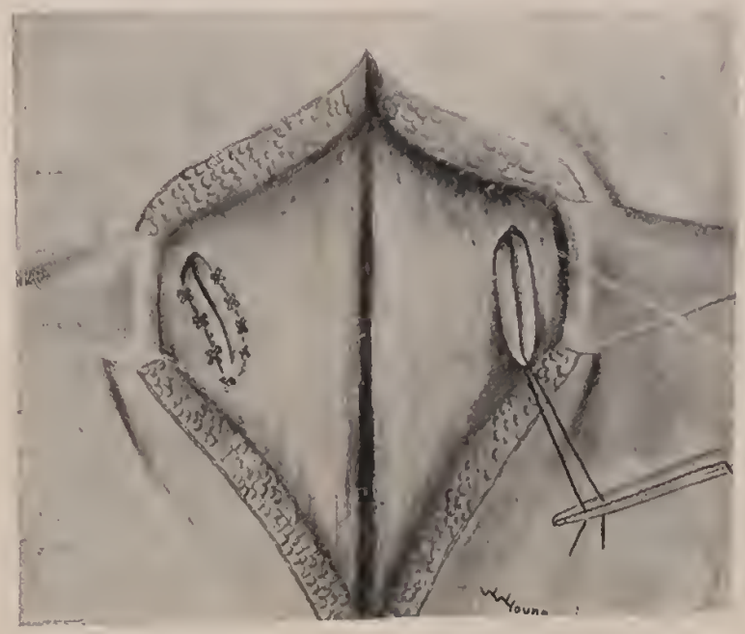


Fig. 3.

correction of a retroverted uterus. The neglect of just consideration of any one of these forces will likely result in operative failure.

The operation as I have performed it in 189 consecutive cases, (having added four to the series since handing in my subject three weeks ago) is briefly described as follows: A perineorrhaphy, colporrhaphy, or both, is first done if indicated. The abdomen is opened 3½ to 4 inches, usually in the median line between the pubes and umbilicus, though not infrequently I employ the transverse Pfannerstiel incision. the patient is placed in an extreme Trendelenberg position, the intestines,—after having by the sensation of touch inspected the gall-bladder, stomach and splenic area of the abdomen—(a routine which I follow when the abdomen is opened for any condition) are packed off with a gauze roll, the uterus straightened in normal position and the utero-sacral ligaments are made shorter by first plicating them for a distance of from one to one and one-half inches and then folding over the plicated area and stitching to the cervix uterii posteriorly, linen or silk sutures being employed. This is done to correct the axis of the uterus to normal.

By retracting the abdominal walls the round ligaments are brought into view, a No. 1 chromic catgut suture about 8 inches long is passed around each ligament equidistant from 1½ to 2 inches from the uterus, and the ends are brought through the abdominal opening and caught in the bite of a hemostat which is laid on the surface of the abdomen.

On both sides the peritoneum and fascia are caught in the bite of hemostats, held taut, and on a line, two finger breadths above the symphysis, the fat and skin is dissected back from the fascia for a distance of 1½ inches.

With a sharp pointed hemostat two finger breadths from the median line and the same distance above the symphysis pubis, a stab wound is made from the surface of the fascia into the peritoneal cavity, the jaws are separated and the cat gut loop which has previously been around the round ligaments is caught, the other forceps removed, and the last hemostat withdrawn through the stab wound bringing with it the catgut loop and a loop of the round ligament. This is held taut and the ligament anchored with a mattress stitch of No. 1 chromic catgut on either side of the wound in the fascia so as to hold securely and also to prevent constriction of the ligament,—the rest of the loop is stitched securely to the fascia, care being taken not to allow a stitch to encircle the ligament thereby cutting off the circulation.

The abdomen is then closed in the usual way. Personally I employ chromic catgut for peritoneum, fascia and skin, occasionally using supporting sutures of silk worm gut if indicated.

In my hands this operation has given entire satisfaction in a series of 189 cases. I have had occasion to examine with the exception of a very few, some done quite recently, all of them within two or three months after operation. Some seventy-five I have examined from two to three years following the operation, and I have recorded out of the series eighteen who have subsequently become pregnant and went to full term with a normal delivery. In none of these cases in which the operation was uncomplicated have I heard of any subsequent complication and in only one have I recorded a failure and in this case the fundus of the uterus was still up, but the ligaments were anchored too far above the symphysis, causing the uterus to hang uncomfortably and the patient suffers inconvenience in locomotion. This case was among my first by this method and though I have made repeated efforts to secure the opportunity of performing a second operation, so far I have been unsuccessful.

In all of these cases I have given my preliminary anti acidosis treatment of sodium citrate and dextrose for three to five days preceding operation and that there was no mortality, no post operative complications and little general discomfort I have attributed in a large measure to the preliminary treatment, an outline of which I gave in a paper Acidosis in Surgery and which was published in the April issue, 1916, of Annals of Surgery.

In this paper I make no claim to originality but am convinced after experimenting with the Baldy-Webster, Kelley and other methods which have been described, that for me at least the combination method above outlined, emphasizing especially the shortening of the utero-sacral and repair of the vaginal supports as well as the modified Gillam procedure, is safe, simple and entirely satisfactory, meeting every requirement for a successful correction of the retroverted and prolapsed uterus.

(Read before the Medical Association of Georgia.)

DISCUSSION ON THE PAPER OF DR. McCORD.

Dr. B. D. Blackwelder, LaGrange: I wish to discuss Dr. McCord's paper briefly, as I consider this subject one of the most important that can be brought before the association from the standpoint of public health. Now, we are making these school examinations in Troup County. One school, situated about six miles from LaGrange, has about ninety-eight children enrolled there, and these children drink out of a spring; they use a common drinking cup or a dipper; the spring is walled in with mortar dirt, and when it rains the spring overflows, and gets the dust and mud in wet weather. The children get the mud squashed between their toes, and next time it rains and the spring overflows we suspect that the spring is contaminated. In that school we made examinations of the ninety-eight children, with the result that seventy-five of them had follicular tonsillitis, a percentage of 76. In another school where they were drinking water from a well, which had terra cotta from top to bottom, the children were drinking out of a bucket, they had no drinking cup at all. One would take a drink out of the bucket, and then another, and still another. In that school, out of 74 examinations made by us, we found 46 had follicular tonsillitis, a percentage of 62. In another school where the children used a bucket to drink out of, we made 53 examinations and found 25 infected with follicular tonsillitis, a percentage of 47. In another school we examined 55 children, and of this number 35 had follicular tonsillitis, giving a percentage of 63.

On the other side of the county we found another condition in one school. We found they were using the same system of common drinking cups; that is, the individual drinking cups consisted of glass, aluminum, or tin cups. In fact, every child was required to bring its cups; they would put their cups in a place alongside the wall, and when the floor was swept the cups would get dirty from the dust. The children were not instructed to carry the cups home. Of 49 cases examined there, there were 41 with follicular tonsillitis, a percentage of 42.

In another school we found them using the paper drinking individual cups. This cup is inexpensive.

This question has given us great concern. We realize that the children need individual drinking cups. We want one that is practical and that is inexpensive. In this school we made 48 examinations of children, and found 10 of them had enlarged and chronically inflamed tonsils which showed they had follicular tonsillitis, giving us a percentage of 20.

In another school using the same cups we made 30 examinations and found 11 cases of enlarged and chronically inflamed tonsils. We see there is a decided drop in the infected tonsil cases.

Dr. McCord spoke of the infectious diseases. I think follicular tonsillitis is certainly an infectious disease because a child having an acute attack of follicular tonsillitis, with the follicles on the tonsils filled with pus, the mouth is naturally filled with germs, and when children are drinking out of the common drinking cup one after another, when some child comes along with enlarged tonsils and drinks out of that cup he or she is liable to infect other children. If we can introduce these paper drinking cups throughout the schools, we will have done a great work.

Dr. L. C. Allen, Hoschton: This is a very timely and important subject, and the doctor has given us a very valuable paper. It is the duty of the medical profession to teach people the truths that have been brought out here tonight. It is an exceedingly regrettable fact that a great deal of the mental and physical inefficiency seem among adult men and

women today could easily have been prevented by intelligent care during their childhood. We should consider the growing period of an individual as an exceedingly important time in any one's life. If a child is allowed to grow up suffering with any disease or physical defect, such as tuberculosis, hookworm disease, chronic malaria, diseased tonsils, adenoids, or anything of that sort which retards its physical development and also its intellectual development, if it is allowed to grow up in that condition, when that child reaches maturity it is handicapped for life. It reaches maturity in that stunted condition of mind and body, and that individual has to go through life handicapped in that way.

If all parents were intelligent enough to realize these truths and have their children properly looked after, medical inspection would not be needed, but you and I know that a large per cent. of the ordinary laity do not appreciate these things. There are plenty of parents who never send for a doctor as long as the child is able to trot around, and it has to be very sick before a doctor is thought of; it may have adenoids, it may have a chronic cough, it may have enlarged tonsils, defective teeth, and a whole lot of serious conditions, and yet the parents never think of having the child cared for. For that reason, the medical inspection of school children comes in and fills a very important function, and as I have previously said, I think it is the duty of the medical profession to carry these truths to the laity because there is no other source from which they can obtain this knowledge.

Dr. William L. Funkhouser, Atlanta: The great difficulty in medical inspection of schools is the beginning. After having instituted school inspection in one town, I know the difficulties we had to contend with at first or in the beginning of this work. However, after having started it and the people saw the benefits of it, I do not believe any community would consent to have medical inspection discontinued. That link in the child's life is so carefully guarded by the school inspection, and when the people see the benefits that develop from school inspection, I am sure that under no circumstances would they consent to the work being neglected any further.

The point I found most valuable in my inspection work of schools was the co-operation of the teachers. The teachers are wide awake to anything that will enable them to develop their children and the physical standard of the children under their care. By attending the normal schools and giving them lectures from time to time on the different contagious and infections diseases, one is surprised to notice how quickly they grasp the cardinal symptoms of the acute infectious diseases, and how quickly they will refer to a doctor any child that is found suffering with any of these conditions. I find the teachers in our rural schools are eminently capable of making an inspection of their children and of sending them to doctors whenever they have any disease or lesion at all suspicious. In that way they will not only keep down the spread of diseases but they will catch these cases early, and as the school inspector cannot visit them more than once a week, in this way every pupil is inspected every morning, and the burden of proof is on the parent to prove whether that child is in a physical condition to go to school, and not upon the school inspector. I have great difficulty in getting people to understand that it is up to them to prove to me beyond the question of a doubt that this or that child is physically fit to go to school and is not suffering from any infectious disease. They first thought I ought to know whether a child was suffering from this or that disease before the child was inspected.

Another great work for the medical inspector which we have not been able to take up for lack of time and assistance is the mental hygiene of the school child. It is a great work and offers a fertile field in the future.

Dr. S. A. Visanska, Atlanta: This is a very timely and important paper. There are a great many points about the physical examination of school children which we should consider carefully. In the first place, every city and every town should have a physical examiner, and the thing is to get the proper examiner, a man who knows how to examine children properly. If the examiner makes a

casual examination of these children it may not amount to much. We should bear in mind that every enlarged tonsil does not mean a diseased tonsil. We know that most children are handicapped because they have not been properly examined. There are a hundred and one different things you have to consider in reference to children when they come to the school term. Some of them may have the growing pains that people used to talk about. The mother may say to you. "My child has got growing pains." You well know as a practitioner of medicine that there is no such thing as growing pains. The pain from which the child is suffering may be due to an infected tonsil or to badly decayed teeth, and perhaps there is no greater handicap for a child than to have bad teeth. Again, half of the children are anemic at the school age because they do not chew their food the way they should do. The average child gets through in a few minutes; it is in a hurry to get through eating, and if you look into the mouths of such children you will see a lot of cavities in the teeth. They swallow their food without proper mastication; they do not assimilate their food as they should do when it is taken into the system, and as a consequence they are anemic. One of the great causes of anemia is that of bad teeth as well as infected tonsils, or enlarged turbinates. Over one-half of the people today, if their children complain of aches and pains, will rub them with oil and turpentine, give them a dose of oil and put them to bed, and particularly was this the case in former times when we did not know as much about enlarged tonsils and enlarged turbinates as we do today.

It is not so much the first inspection of the children as it is following up what you do and getting the physicians to co-operate with you because, as a rule, the man who does the inspection is not the man who receives the cases. Some doctor will say, "Oh, well, I just inspected the children in that school and could not find anything the matter with them." I have had people come to me and say that they did not believe in medical inspection of school children. They would say, "Doctor, I know my child has not enlarged tonsils, but I thought I would bring his card to you." Supposing I should look in the child's mouth and see an enlarged tonsil and say to the mother, "Your child is all right." That is no way for a doctor to do. We have got to educate the public up to knowing that these things are necessary for their good and it is not so much for our good. A lot of doctors are put there to inspect these school children just to give the doctors more work. They do not realize it is for their protection and for the good of the children and the doctors in every community it seems to me ought to take just enough time to try and educate the mothers and to give them the facts. It is the mothers we want to educate particularly. If you can educate the mothers, they in turn will educate the fathers and induce them to have the work done. It is a hard job to get them to realize that this work should be done. We have to contend with that kind of thing right here in Atlanta like you do in smaller places.

One of the speakers brought up a very important point with reference to examining the spring from which the children drank water, where the water was muddy and infected. In such cases you have got not only to inspect the children, but it is your duty, particularly those of you who do this work, to inspect the school and its surroundings.

Another very important point is to examine the teachers themselves very thoroughly to see that they have not got tuberculosis, and the children cannot contract such diseases from them.

Dr. St. J. B. Graham, Atlanta: While Dr. Funkhouser and Dr. Visanska have covered the ground pretty well, it seems to me very essential that not only should we have school inspection for children, but we should have school inspection for grown-ups just as well, because we have learned that about 25 per cent. of the men taken into the draft were sent back because they were physically unfit. If they had been examined when they were children, they would have passed and gone through, and something should have been done for them.

One question of vital importance which concerns children is worms, just plain worms, and there are different kinds of them, such

as hookworm and cestoides, and it is necessary that inspection of school children should include not only a thorough examination for worms of various kinds, vermin of all kinds, but the tonsils should be thoroughly investigated, the urine examined, and other excretions should be examined to be on the safe side.

Dr. John Schreiber, Thomasville: There is one condition that has not been brought out in this discussion in connection with school inspection to which I desire to call your attention, namely, bad eye sight in children due to conditions around the rural schools. In our county there is only one school that is built along right architectural lines for seeing purposes, and that is, the light coming from the left side of the pupil and not from in front of the pupil. We find rural schools with windows in front of the children's eyes. In such schools we find from 40 to 50 per cent. of the children cannot read the test card and make 22. The children in our rural schools are in bad shape because they have not had the benefit of school inspection. We find that 80 per cent. of our boys and girls have chronically enlarged tonsils. Most of them have defective teeth. It is to be regretted that we have no follow-up work. Defects are repaired wherever possible, but school architecture should play a part in connection with school inspection. We have two schools in our county that are built along architectural lines, and it is a serious thing from the standpoint of the pupils. I have had quite a number of grown up people tell me that their eyesight is greatly impaired from attending rural schools when children. How it works on the manhood of our country we people who have examined men have seen some of the serious defects. As a member of the Advisory Board in our county we had thirty young men under thirty-five years of age who were examined, none of whom were physically fit for the service. One day our Advisory Board examined 45, and of this number 2 were selected. Our young men from the small communities and from the outlying sections of the country under thirty-five years of age, who were examined for the service, were found to be in bad shape physically. We have had hookworm disease in the past, but many of these defectives suffer from the fact that they were allowed to grow up in a harum scarum manner without school inspection, and we need medical inspection of school children worse than we need anything else.

I have been asked to say a few words about what can be done in the way of side issues in rural work. I find in my county a great many things we cannot do, and one of them is we cannot get the support we should have. Doctors as a class will not put money or effort into the work. I have started out in accordance with the lines of least resistance. I have been successful in doing something in the way of better hygiene for the boys and girls. I have something like twenty-five boys and girls doing modern hygienic physical exercises in rural schools, and I hope all rural school children will get the benefit of that work. W have not treated a case that could not come up to what the other boys and girls do in physical culture exercises. I have been told by their principals that their recitation work is much better. One man told me that he has not had a lazy boy in his school since they have been taking set-up exercises. If we cannot accomplish as much as we would like to do for sanitation, we can do something for better hygiene, and I cannot feel satisfied without saying something in favor of systematic physical culture, some little scheme that the average teacher can learn. I know I am getting good results by pushing hygiene in places where I cannot get sanitation.

Dr. McCord (closing): It was Dr. Funkhouser who drew my attention to his excellent work in Rome. He was medical inspector there before I took it up and carried it into the rural sections, and the plans he started have helped us to accomplish what we have in the rural sections and in the City of Rome. When he left Rome it was his wish that I should follow up the work and carry out the plans, and in co-operation with others we sent out nursing service.

I was in one school not long ago and asked the teacher to hand me ten cards of children who failed to pass the year before, and she handed me ten cards without looking to see who they were. I looked at the cards and saw there were eight out of ten children who had damaging defects.

I think every man who has done medical inspection will agree with me when I say, that one reason why we do not get correction of defects any more is because we do not have the full co-operation of the young practitioners of medicine. I have sent children home with notices to their parents when I found anything wrong with them, and the parents would take these notices and carry them to physicians. If it was a bad case of tonsillar trouble, the physician perhaps would write a prescription of guiacol and thymolin and get one dollar for it, or he would treat the patients with a spray, but they are not doing that now. Several years ago, however, that was done, but I have not in the last two years seen so much of that. At the present time, when children are sent to them, they examine them carefully and if they have diseased tonsils they are either removed by these physicians themselves or sent to other practitioners to have them removed, consequently we are getting co-operation from the physicians at large and are obtaining better results.

CHEST INJURIES.

M. A. Blankenhorn, Orrville, O. (Journal A. M. A., July 26, 1919), says that the treatment of chest injuries at the beginning of the great war was very unsatisfactory but was much improved toward the end, both in technic and scope. Methods of examination of a wounded chest are precise; the damage can be estimated, and the treatment indicated. Foreign bodies usually follow a definite course, and, if lodged, can be located by the roentgen ray. With proper appliances the trained surgeon can invade the thorax to remove infection and make repairs. The effect of infecting organisms is still the greatest unknown quantity. His paper is based on the experience of various British and American surgeons in handling approximately 500 cases. The chest wounds in the forward area hospitals fall into five main groups, according to their severity and the urgency of treatment: (1) open pneumothorax; (2) extensive parietal wounds, involving ribs and muscles; (3) large, retained foreign bodies; (4) infected hemothorax, and, (5) simple hemothorax. There is no spontaneous cure for open pneumothorax or the sucking wound. Immediate anatomic repair is indicated and affords almost instant relief. If untreated, the patient rapidly failed, and died, apparently from asphyxia. Simple stopping of the wound with a plug of gauze would revive a man in a few hours, sufficiently to enable him to undergo an extensive operation and exposure of his wound. Parietal wounds, penetrating or not, demand the same consideration as other wounds, with the additional reason that infection may be induced by the broken bones, or that these may injure the heart and pericardium. Parietal wounds of less extent are a continuous source of infection to an adjacent hemothorax. If they connect with the pleural space by ever so small a sinus, they cannot be drained. It was found advisable to convert a parietal wound into an open pneumothorax if necessary to make a thorough revision and good closure. Opening the chest freely was found easy and safe; the procedure was well tolerated and caused very little shock. A good nitrous oxid machine and a skilled anesthetist are necessary. Retained foreign bodies are dangerous as a source of infection and mechanical erosion of large vessels. Undeformed bullets and shrapnel balls are strikingly harmless, but shell fragments are usually wrapt around with clothing and dirt, and, if they are as large as an inch in diameter, are almost never tolerated. They must be removed as soon as possible to prevent abscess or empyema. If large, the man is usually unfit for immediate operation on account of hemorrhage, shock or both; and if the first persists in spite of treatment, he will probably never be fit for operation. Transfusion or infusion only increased the hemothorax, and the patient died suddenly with angina. The pressure and volume of fluid in the chest apparently crowded the lung and heart out of action. Rest in a warm bed with plenty of fluids and morphin, however, usually brought the patients to a fit condition for the operation required for the removal of the foreign body. Frequently, the rib resection should be made sufficient to admit the hand to the thoracic cavity in order to explore it fully. The fourth and fifth ribs in the axillary space are best for this purpose. If the foreign body was removed through healthy pleura, it had to be sutured, if through carni-

fied lung, hemostatis or closure was not usually needed. How much should be done for carnified lung was a question, and Blankenhorn thinks that beyond removing gross contamination and necrotic tissue, the less done the better. The tolerance of the operation by the patients was remarked on. It was thought by many that the lung should be kept collapsed and at rest after the injury, but the removal of collections of air or fluid from the pleural cavity introduced a new problem. Infection of the pleural sinus was the greatest foe to the man who survived his anatomic injury, but it was surprising how the pleural membranes combated infection when in their natural position and condition, and hence the accumulations of air or fluid should be prevented as far as possible. After the operation and the closure, serious exudates appeared, and, sometimes, repeated aspiration was needed. In other cases, the fluid kept accumulating and finally became purulent, causing a small empyema at the base of the chest, but drainage was easy. The infected and the uninfected hemothorax were at first confused and managed alike. The degree of contamination and amount of free fluid are the principal determining factors—each case must be managed by itself. Many patients, in cases in which there was no infection, did well without interference, but in infected cases, as a rule, free drainage was needed. If it could be delayed by repeated tapping, the results were generally good. Some cases require drainage at once. In cases with drainage, the management was much the same as in civil surgery, except in some instances in which empyema cavities were treated by the Carrel-Dakin method with good results.

THE JOURNAL

OF THE

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NEWS: Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to physicians. We shall be glad to know the name of the sender in every instance.

Editorials

Members of the Association will notice a distinct change in the physical appearance of the Journal. Other changes, such as the addition of a departmental board of editors will, we hope, improve the publication.

For many reasons, none of which the editor, Dr. Lyle, could control, the Journals have been delayed until now we are forced to appear with the July number.

It is the intention of the editors to publish a Journal semi-monthly until September the fifteenth and monthly thereafter.

Dr. Lyle has long been of the opinion that the work of the office of Secretary-Treasurer and Editor of the Journal was too much for one office to handle. Particularly has this been true since last November when the duties of Secretary in almost reorganizing the Association have been prodigious. He found it next to impossible to give to the Journal the time he thought it deserved.

He, therefore, has asked us to assist him in his duties for the time being by assuming responsibility for the Journal. We do this with some mis-givings but cheerfully offer our services in the emergency.

We hope to enlist the co-operation of the members of the Association, particularly the Secretaries of the various county and district societies in doing for us the things we expect to ask of them from time to time. We hope to stimulate the members in reporting clinical cases, in book reviewing and in contributing to the columns of the Journal original papers and in return we promise to issue a Journal worthy of those efforts.

As has been the custom, it will be impossible for us to publish the papers of the last annual meeting as they appeared on the program. Many of them are not, as yet, in our hands. In order to issue the Journals regu-

larly we will have to publish the matter available.

We should remember that what we get out of anything is in direct proportion to what we put into it. We, therefore, ask for your personal interest and active support.

Help us to make the Journal the best Medical publication in the South. It can be done.

THE JOURNALS WILL NOT BE DELAYED IN THE FUTURE.

WILLIAM OSLER.

It has been said that aspiration is the law of human life, that every soul hungers for something vast and seeks that realm where it may be satisfied. The potential traits of many workers never receive the proper stimulus to bear forth the evidence of their capabilities.

The genius of Sir William Osler, who celebrated his seventieth birthday in July, has been the one great inspiration to those who seek the practical application of all branches of medical science.

To him, perhaps more than any other man in modern medicine, we owe our present knowledge of clinical teaching, and his works on medicine stand out as gems of our literature.

It is unusual for a man to live in the age in which he is appreciated. It must be a great satisfaction to see one's ideas, in a sense revolutionary, put into practice and acclaimed as the salvation of medical instruction. Such is the reward of the man who insisted on bed-side instruction and relegated didactic measures to a place subsidiary to the practical method of teaching.

The world owes Sir William Osler a great debt; and all the honor and glory that comes to him in his declining years will be but the reflection of the esteem and admiration in which he is held by thousands of students and admirers.

THE CHIROPRACTIC BILL.

By placing on the table House Bill number 1, which provides for a Board of Examiners to regulate Chiropractics in this State, the Senate, at least, has checked a menace to public health, as well as developing engine trouble for its chief engineer, Representative Ed. Wohlwender, of Muscogee.

This bill shrewdly framed to meet criticism and far-reaching in its technical phrases, would in effect establish a licensing board for a cult thoroughly unqualified in any of the essentials of medical science. It would license the "Doctor of Chiropractics" to go forth and heal the sick by spine manipulation, but in reality would simply hang a curtain over quackery.

The Chiropractics "thoroughly regulated" would by this bill practice on the public, what they have learned about disease through their study of the spine. They would not (?) use any drugs or practice surgery. They would, by analysis (spine manipulations), determine whether or not a man had typhoid fever or pneumonia and then treat him accordingly. In effect, this is not in keeping with the purpose of the Medical Practice Act, enacted last year. The public, guileless as it is about such matters, could not be expected to remember or know that their (chiropractic) Doctor analyzed and treated all diseases by knowledge and manipulations of the spine, if indeed he practices his "art" according to the provisions of the Act.

It is, indeed, refreshing to see that sound judgment is not to be pigeonholed when any body of representative men have an opportunity to consider vital matters or have the evils of certain proposals explained to them. This bill was rushed through the House in high gear. Mr. Wohlwender, who has become particularly interested in Chiropractics, fathered it and has stayed with it night and day. He meant to have the bill become a law, even though the preponderance of medical advice was against it.

Doctors of Georgia always feel that a public health fight is their fight. They feel it their plain duty to oppose any measure which jeopardizes the health and well-being of our people. There could be no ulterior motive in the action of the medical association in this matter. On the contrary, there would undoubtedly be distinct pecuniary gain for the physicians of Georgia if this bill, or similar bills, were passed. An operation, for instance, to correct a mistake, is just as profit-

able as is primary work. The time has come for Georgia physicians to know just where they stand. If it is expected of them that they guard the welfare of the state in such matters and to reinterate, they feel it their duty to do so, and a stick can be wielded in our Legislature with the force of that of Mr. Wohlwender, then it is high time for the physicians of Georgia to take counsel among themselves and see what can be accomplished in the various communities. If we are to fight for the people in the questions of health, let's begin to fight at the right place, and continue it until we have at least the confidence we merit of legislative bodies. Should the present bill become a law the next General Assembly may expect similar bills from the Neuropaths, Naphropaths, Spondylotherapists, Magnetic Dealers, Mechanotherapists, and many other cults.

NEW AND NON-OFFICIAL REMEDIES.

During July the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Non-official Remedies:

Abbott Laboratories:
Barbital Sodium—Abbott.

Hollister-Wilson Laboratories:
Ovarian Substance—Hollister-Wilson.
Desiccated Corpus Luteum—Hollister-Wilson.

Roessler and Hasslacher Chemical Co.:
Sodium Dioxide, Dental—R. and H.

LOW RENAL FUNCTION.

Cases showing the possibility of long life, in spite of continuous low renal function, seeming to contradict the general unfavorable prognosis of such conditions, are reported by J. P. O'Hare, Boston (Journal A. M. A., July 26, 1919). In one instance, a young woman, aged 23, who had had, apparently, acute nephritis occurring in scarlet fever at 9 years of age, came under his care in May, 1915. When she was 18 or 19 she began to suffer symptoms of vascular disturbance, such as spasmodic blurring of sight, cramps in the legs and occasional dizzy spells. These were followed later by morning headaches, which were relieved by lowering her blood pressure under treatment. There seemed to be a marked inability on the part of her kidneys to handle water, salt and nitrogen. The patient was discharged improved after six weeks, her headaches relieved and blood pressure reduced, and for sixteen months she seemed fairly well. When she was readmitted to the hospital, her headaches had returned, and nosebleeds were frequent, with occasional drowsiness; and an examination revealed definite cardiac hypertrophy, high blood pressure and some probably degenerative conditions of the retina and renal function below the minimum. During 1917, the patient was not seen, but except for her headaches considered herself fairly well. She was readmitted in February, 1918, after an attack of renal colic, but improved rapidly and was discharged in July. For five months she was considered in fair health, though some symptoms persisted. After readmission, November 30, she declined. Necropsy showed excessively small kidneys with a well marked vascular nephritis, and practically no kidney substance left, as revealed by the microscope. All the arteries were affected, some of the smaller ones obliterated. The glomeruli were rare, showing changes ranging from hyalinization of the capillary wall to complete thrombosis of the whole duct. The subtended tubules were mostly atrophied, and there was much connective tissue. In some areas the glomeruli were fairly normal. O'Hare considers this case as one arising from scarlet fever, starting when the patient was 9 years of age, passing through various stages, and, for the last ten years of her life, being almost an entirely vascular disease, with greater changes outside the kidney than within. Renal function was low, but sufficient, until infections broke the narrow thread by which it maintained itself. The second instance was that of an elderly man, regarding whom the data for eleven years were obtained. The necropsy showed very small kidneys with marked arteriosclerosis and very little intact parenchyma. The case was one of chronic nephritis, which, starting with an acute process, had acute flare-ups during 1911 and 1914. The latter year the function of the kidney was practically nil, but after that, until the man's death in December, 1918, the degenerative process progressed slightly. The two cases, O'Hare says, demonstrate the pos-

sibility of prolonged existence with very little renal tissue and extremely low renal function. The only possible explanation is that the disease during this time was a purely vascular one. Pneumonia was directly or indirectly the cause of death in the first case, and the obliteration of the last bit of essential kidney tissue that of the second.

PERICARDITIS.

In 300 necropsies of pneumonia patients at Fort Riley, Kan., studied by W. J. Stone, Toledo, Ohio (Journal A. M. A., July 26, 1919), pericarditis was found in seventy-two, or 24 per cent.; the acute purulent form in 61.1 per cent. of the seventy-two, and the acute serofibrinous type in 19.4 per cent., while the subacute fibrinoplastic and purulent form, causing the "shaggy heart" occurred in the same percentage as the last. The amount of fluid in the acute serofibrinous pericarditis varied from 250 to 1,000 c.c. With this form, both lungs were involved in 50 per cent. of the cases; the right lung alone, in 28.6 per cent., and the left alone in 21.4 per cent. In the acute purulent pericarditis, the amount of pus ranged between 100 and 1,000 c.c. The average, in twenty-six recorded cases, was 350 c.c. Both lungs were involved in 41.7 per cent. cases, the left lung, alone, in 31.8 per cent., and the right, in 20.4 per cent. In 54.5 per cent. of these cases, empyema of the left pleural cavity was found. In the subacute form producing "shaggy heart," pneumonia of both lungs had occurred in 35.7 per cent. of the cases; of the right lung alone, in the same percentage; and of the left lung in 28.6 per cent. Bilateral empyema occurred in 35.7 per cent. of these cases, right empyema in 31.4 per cent., and left in 28.6 per cent. The type of infection of the pericardial fluid corresponded, generally, to that of the pleural fluid. In about 75 per cent. of the patients, streptoccal infection (usually hemolytic) was present. The most important factor causing pericarditis seemed to be empyema, the infection resulting from contiguity in many instances. Pericarditis and associated myocardial changes were important tributary causes of death in empyema, both before and after operation. "In the diagnosis of the pericardial effusion in amounts varying from 300 to 500 c.c., the physical signs and the roentgenograms were fairly dependable, despite the extensive, associated pathologic condition which confused the picture. In the diagnosis of smaller amounts (from 10 to 150 c.c.) of purulent material in the pericardium, the clinical signs were untrustworthy and the roentgenograms of little assistance." Paracentesis of the pericardium was important in diagnosis and prognosis. In acute serofibrinous pericarditis, with large effusion, aspiration of the fluid was an important means of relieving the heart embarrassment. The more radical procedure of incision and drainage of the pericardium in purulent pericarditis was not considered advisable in any case in which the condition was suspected, because of the associated extensive pathologic conditions.

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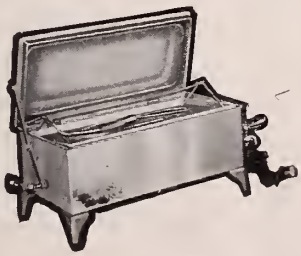
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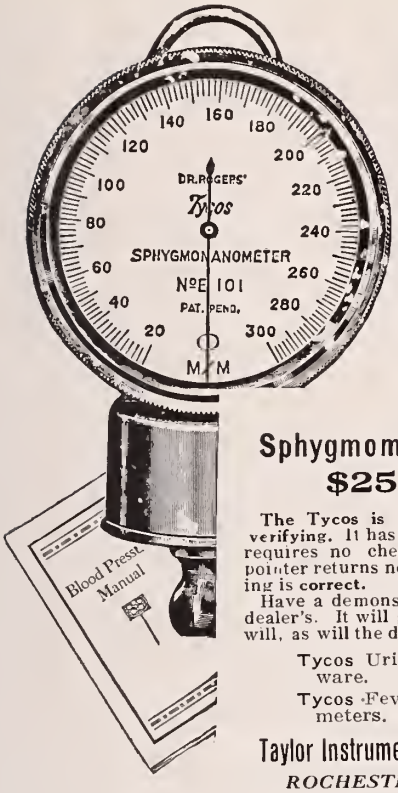
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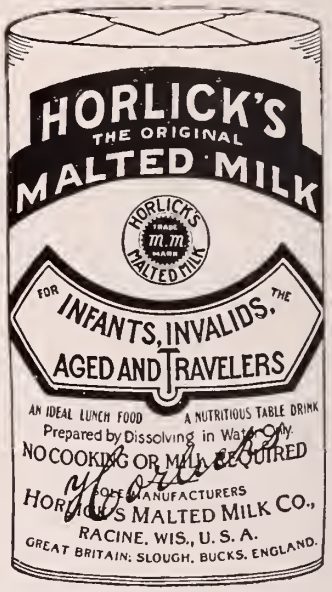
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ORIGINAL ARTICLES

THE FEEDING OF BABIES DURING ACUTE ILLNESS.

By W. A. Mulherin, M. D., Augusta, Ga.

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It is not my intention to bring within the scope of this paper the feeding of babies and children, who, primarily, are ill with digestive disturbances, like acute and chronic intestinal and gastric digestion, or acute and chronic ileo-colitis. Likewise, it is not my purpose to include "the difficult feeding cases" where poor digestion already exists, either from congenital weakness, or as a result of wrong feeding, or bad hygiene, or innate peculiarities of the baby, such as intolerance to fats, sugar or proteins. To include these cases in my subject would take more time than is allotted to me. This paper will give consideration only to the feeding of infants and children acutely ill with diseases other than those of the digestive tract.

The proper feeding of sick babies during acute illness, and the feeding of those enjoying normal health, are two entirely different propositions. Feeding is an important part in the treatment of every acute disease in childhood, especially so in infancy. It is much easier, by proper feeding, to prevent complicating disturbances of digestion than to allay them. In infancy this complication often turns the scales against the patient. It appears on the face of it, as a self-evident fact, that sick babies should be fed differently, and more cautiously, than normal healthy ones. Their digestive capacity in acute illness, by the natural process of reasoning, will lead us to expect a weakening, or a lowering, of their digestive ability.

This expectation can be quite thoroughly substantiated by studying, and properly interpreting, nature's efforts in babies who are acutely ill. Take the case of an acutely ill baby, especially if that illness be of a febrile character. The onset of vomiting is quite frequent, diarrhea not uncommon, loss of appetite, or a real aversion for food, rather constant, and thirst, in most cases, well marked and very demanding.

I think it fair to assume that the proper interpretation of nature's efforts in such cases should be that the baby's stomach and intestines have, either wholly or in part, ceased their normal functioning, and nature coming to the rescue, endeavors to rid the system of food that cannot be digested. Therefore, she promptly provokes vomiting and diarrhea as a means of relief or assistance. It also appears logical to believe that the loss of appetite, so constant in these cases, is an effort on nature's part to show that food should not be given at this time; that digestion for the time being is practically nil, and that food only aggravates an already bad state of affairs. Again, the abnormal craving for water, in such cases, might fairly be considered an index to the importance nature places upon the value of having, and continuing to have, plenty of water in the body tissues.

The ill effects of dehydration of tissues in babies is becoming clearer cut in its importance, to the observing physician, the more he studies it. Acidosis, severe and moderate grades of intoxication, and I might add acute inanition symptoms and signs, are most assuredly, intimately associated with dehydration of tissues. It is well to always remember that a baby can do without food, frequently to advantage, for some twenty-four to seventy-two hours, but it is a dangerous procedure to withhold, or permit, the non-intake of water, for the same length of time. A good slogan to

adhere to in the treatment and feeding of sick babies is: "more water, less food, and as little medicine as possible."

All these facts are accepted and well known to every reputable physician, but it is astonishing to note that, not infrequently, they are either forgotten, or the knowledge is not reasonably applied in some cases; the result being that a sequence of gastric, or intestinal indigestion only too frequently complicates an already existing acute disease of some other organ or important tract in the baby. Likewise, the improper consideration of these well known facts can be blamed for the frequent complaints from mothers, that her baby cannot digest cow's milk, and her final decision to rear her infant on condensed milk, or other proprietary infant foods.

Incidentally it might be mentioned, in this connection, that well babies are quite frequently upset by starting artificial feeding with too strong mixtures of cow's milk; the physician giving the baby the advantage of too much theory and too little common sense. The baby is fed on too strong a formula of cow's milk, instead of beginning with a weak formula, and gradually teaching the digestive organs to digest a strong enough formula upon which it will thrive, the fact being overlooked that cow's milk was intended for calves', and not babies', stomachs. It should be remembered, in this connection, that if in, approximately, two weeks time a normal baby can be taught to digest a strong enough formula, on which it thrives, the physician will have done well. He will further have the assurance of knowing that he is feeding his baby a food that is generally recognized as only second best to that of mothers' milk.

Feeding.

Generally speaking, unless the illness is due to disease of the digestive tract, all acutely ill babies and children might be fed in very much the same manner. There are a few essential facts that must be kept constantly in mind in the feeding of these sick babies:

1. **Less Food and More Water.** In all acute febrile diseases the baby should be given less food and more water than in health. In bottle-fed babies this can be easily accomplished by simply increasing the dilution of the food. In breast-fed babies less food can be given by shortening the length of time at brease, lengthening the intervals between nursings and giving water freely between nursing hours.

2. **Fat Intolerance.** Remember that sick babies tolerate fats very poorly, and that this ingredient of their food should be reduced, or, temporarily excluded. Also bear in mind that intolerance to fats lasts much longer than intolerance to the other ingredients, like carbohydrates and proteins. Therefore, sick babies, artifically fed, should receive formulae made up from fat-free milk, or from skimmed milk containing 1 per cent., 2 per cent. or 3 per cent. As fats and carbohydrates are interchangeable for a short time, without being detrimental to the baby's health the diet should consist largely of carbohydrates, as barley water, rice water, or gruels made from carbohydrates.

3. **Do One Thing at a Time.** Do not attempt to cure an acute illness, and at the same time fatten a baby; the two things are practically impossible of accomplishment at the same time. If the acute illness is not one affecting the digestive tract, be content in your efforts at proper feeding, to prevent gastric or intestinal indigestion from complicating. If perchance gastric or intestinal indigestion does complicate the already existing acute illness, I would advise ignoring the loss in weight, and the number of calories in the food, and direct your sole attention, as regards the feeding, to correcting the digestive disturbances first, before taking up consideration of weight and calories. When this has been accomplished, then your immediate attention should be given to the regular weekly, or biweekly, weighing, and the number of calories contained in food. Just here I would like to stress the importance of outlining your purpose and procedure of treatment to the mother. If you make it clear to her mind that the loss in weight of her baby is, for the time being, of secondary consideration, you will save much maternal worry, and receive intelligent co-operation,

where otherwise, confusion, dissatisfaction, and injustice to the baby will result.

4. **Regularity of Feeding.** It is just as important to observe regular hours of feeding, in cases of sick babies, as it is to carry out such procedure with well ones. It is true that occasionally such regularity of feedings has to be ignored, or temporarily abandoned in exceptional cases of some capricious sick babies. Ordinarily, however, food should never be given oftener than at three hours intervals. This does not apply to the giving of water, which has no limit as to quantity or frequency, provided the stomach is not irritable. Stimulants, when required, can be advantageously given with as much water as is practicable.

Forged Feeding—Lavage. There are some cases of infants and children so acutely ill that they will refuse all food for several days, and it is only with great difficulty that enough water can be introduced into their system to prevent serious conditions arising from dehydration of tissues. In such cases forced feeding with tube and Murphy drip with 5 per cent. glucose solution will be found live-saving. If lavage has to be resorted to, washing of the stomach twice daily will be found of benefit. Also the intervals of feeding should be lengthened by about one hour. In the use of the Murphy drip I have learned that a baby's bowels soon become intolerant to glucose solution in higher strength than 5 per cent. It also appears to me that I have been able to get more glucose solution into my little patients when I have the Murphy drip put on for one hour, and off for three hours.

Milk Versus Water.—There is a common mistake that is made by some physicians in ordering that milk be given the baby, or child, whenever it asks for water. This should never be done, as it frequently disgusts your little patient with both milk and water, and you lose more than you gain by such a procedure. If there exists a complete aversion for milk in any form, barley water sweetened with saccharine, for infants; or beef tea, broths, thin custard, for early childhood, may be used. For children over five years of age raw eggs beaten up with sherry wine, sugar and cracked ice, are permissible. Orange juice may be allowed in almost every febrile disease, but not given within two hours of a milk feeding.

Hunger.—One of the best indications as to the time when to increase the strength of the baby's milk, or to lead an older child on to dry toast, well cooked cereals, soft eggs, etc., is the hunger, and not the fever, of the patient. It seems reasonable to suppose that when nature returns the appetite, the digestive organs have had sufficient rest to slowly take up their normal functions once again. If easily digested food is added slowly, without crowding, and the appetite is taken as a gage of digestive ability, there will be very little likelihood of upsetting the digestive organs.

After One Year of Age.—In babies about one year of age, or older, I have found buttermilk of great value in feeding during acute illness. It has the advantage of not forming large, tough curds in the stomach, as is so frequently the case when raw cow's milk is used. The reason for same being that the casein in buttermilk is a lactate of casein, and the rennet of the stomach does not act upon it to coagulate it into curds. The reverse is true as regards the action of rennet upon the plain casein of raw cow's milk. If, however, raw cow's milk is boiled for five minutes, the rennet of the stomach will not act upon it in such a manner as to form troublesome curds. This is a point of value when a little patient dislikes the taste of sour milk, and it becomes advisable to give sweet milk instead of buttermilk.

Plain or sweetened zwiebach, or dry toasted wheat bread can be advantageously used in feeding acutely ill babies or children over one year of age. These foods are strictly carbohydrates, and are almost as digestible as barley water, or barley gruels. It is often advisable to give your carbohydrates in this form, when your little patient refuses the barley mixtures. The combination of buttermilk and dry toast will be found a very safe and satisfactory diet for the average case over one year of age. If fat-free milk, boiled for five minutes, has to be substituted for the buttermilk, it some-

times will be found advisable to dilute it one-third or one-half with water, especially if the little patient is under five years of age.

A STUDY OF THE EFFECT OF INFLUENZA ON ARRESTED PULMONARY TUBERCULOSIS.

By Arch Elkin, M. D.

Visiting Physician to Grady Hospital, (Municipal), Atlanta, Georgia.

Attention is called to this interesting situation as a result of cases studied since attacks of Influenza. This study is based on cases seen in the army and private cases in which there was an apparent cure of early tuberculosis and subsequent observation after Influenza. Our observations have necessarily been somewhat limited on account of the short duration since the Influenza epidemic, but certain phenomena noticed seem to warrant the following report:

Sixteen private cases have been observed following attacks of Influenza. Fifteen of these cases were on May 13, 1918, "apparently cured" or "arrested." Ten of these cases were incipient and five moderately advanced. The other case was under treatment when the writer went into the service and showed active trouble at that time. He was moderately advanced.

The apparently cured cases had been without signs or symptoms for periods extending from eighteen months to six years. The "arrested" cases had been under treatment as late as one month in one instance, before May, 1918. Twelve of the cases had been under treatment over a period covering from six months to two years.

They were in May, 1918, in good physical condition, and the majority of them had returned to their usual vocations. None of them had any general symptoms of tuberculosis, and all had shown an appreciable gain in weight.

The incipient cases showed on physical examination the usual signs of fibrosis with no activity. The "arrested" cases, with two exceptions, showed fine showers of rales in portions of their affected areas with the accompanying signs of infiltration.

All of these cases now show reactivation.

Out of the entire number of Influenza cases seen, I have selected seven to report. Four of these cases had been under my treatment for active tuberculosis previously. The other three cases showed on recent examination active physical signs of pulmonary tuberculosis in addition to manifest evidence of healed lesions. This evidence was corroborated by means of the x-ray. These selected cases show every type of condition mentioned in the premises.

Case No. 1—Mrs. H. Age 40. First came under my observation November, 1916. Referred by surgeon, followed operation in which general anesthesia was used. Physical examination disclosed an incipient III pulmonary tuberculosis. She was put on treatment, which included immunization with tuberculin. She made an uneventful progress, and on January, 1918, was discharged. At that time there were no active signs of pulmonary trouble. She had gained 29 pounds. In September, 1918, she had an attack of Influenza—was confined to her bed three weeks. March, 1918, physical examination disclosed a reactivation of her previous trouble, in addition to positive evidence of trouble in her right base.

Case 2—Mrs. C. Apparently cured case of incipient tuberculosis of six years standing. During the six years she had given birth to two children and remained perfectly healthy. In March, 1919, had an attack of Influenza complicated by Type 1 pneumonia, affecting right and left base. Physical examination in March disclosed reactivation of previous tubercular trouble with positive evidence of activity in base of both lungs.

Case 3—Mr. D. Came under observation for treatment in May, 1917—at that time showed positive right apex. Was immunized with tuberculin in conjunction with general treatment and had apparently cleared in February, 1918. In February, 1919, had Influenza with reactivation of previous diseased areas with positive physical signs

of trouble in the base of the right lung.

Case 4—Mr. S. This was a new case and came under our observation during an attack of Influenza. He made an uneventful recovery from the Influenza. Subsequent physical examination of his chest revealed evidence of old fibrosis extending from the apex to the sixth dorsal spine on the right side and from the apex to the fourth dorsal spine on the left side. At this examination and three subsequent examinations covering a period of two weeks there was positive evidence of incipient phthisis in both apicies.

Case 5—Mrs. P. This was also a new case which gave a history of having taken treatment for tuberculosis twelve years ago. She had Influenza nine months ago. Physical examination showed active incipient tuberculosis of the right apex with evidence of fibrosis extending to the eighth dorsal spine. The x-ray showed healed lesions scattered almost throughout the entire lung as well as an old hilus tuberculosis on left side. According to her history she had been apparently in good health for the last few years. She married four years ago and within the first year of her marriage gave birth to a child.

Case 6—Mrs. H. This was also a case whom we had not seen previously, who had Influenza four months ago. Following her recovery from Influenza, which was uneventful, she did not improve as rapidly as her physician thought she should, consequently she was referred for physical examination. There was a distinct evidence of old fibrosis in the right side, extending from the apex to the sixth dorsal spine. She showed a distinct early tuberculosis in the right apex. In the right base there was also evidence of activity.

Case 7—Mr. M. Came under our observation December, 1916, with incipient III tuberculosis. This case was markedly active and his infection seemed severe. Aften seventeen months treatment this case was apparently free from physical signs and he had returned to his work as cashier for one of our large corporatios. He had been immunized with tuberculin. In October, 1918, he suffered from an attack of Influenza which was complicated by double pneumonia. March, 1919, physical signs disclosed reactivation of both apecies, positive evidence of trouble in his right base.

Conclusion: It is not surprising to those who closely study chest conditions to discover that Influenza reactivates arrested or apparently cured lesions of tuberculosis. An infection so intense and with such a rapidly ascending toxicity as is produced by this strange malady can easily account for the lighting up of many lungs which have never shown any evidence of tubercular trouble. One of the interesting points to me, however, is the fact that many cases observed both in private practice and othewise, show a reactivation of the primary lesions which in most instances is confined to the apices, and in addition positive activity in the base of the lung.

It is an interesting question as to whether this activity remaining in the base of the lungs is an unresolved condition resulting from the Influenza per se, or whether or not it has illumined a new zone of tubercular activity. It is peculiarly true, however, in the cases studied that where the apices show a reactivation there are distinct areas of resonant findings between the apices and the bases that would not lead one to suspect the trouble in the base of the lung to be tubercular. However, when the case has made an apparently complete recovery and months have elapsed since the attack of Influenza and the base of the lung still shows an activity which is typical in its physical manifestation to the ordinary tubercular findings of the apex, it leads one to suspect strongly that we now are dealing with both an apicial and basal tuberculosis. Particularly in this suspicion intensified when we know we are dealing with a tuberculous individual.

I think there is no question but what the recent epidemic of Influenza will bring out more diagnoses of pulmonary tuberculosis than have been made in any stated period since the disease was discovered by Koch in 1882. If this be true, then the epidemic through which we have just passed, may in this sense prove a blessing in disguise.

I believe that chest examinations should be even more rigidly done than has been the custom, that particularly the general practitioner should pay more attention to the detail of lung findings than he has been able to in the past on account of his work. As a routine measure I believe that every case that gives a history of Influenza, who has apparently recovered from the Influenza, but remains in a low state of health, and in the absence of physical signs which would lead to even a tentative diagnosis, the patient should be put at complete rest in bed for a period of not less than three days and that during this time the temperature should be taken at regular intervals during the day. In many instances where the temperature is not material, that is to say, where it is not to be accounted for in the chest, this rest period of three days will tend to clear it up. A careful physical examination should be made before and after the rest period.

It will be interesting to note during the next year how the resistance of individuals who have had Influenza will compare with those who have not had it.

We may expect an increase in chest pathology.

908 Candler Building.

PERIPHERAL NERVE SURGERY.

By Young C. Lott, Captain, M. C., U. S. Army, U. S. A. General Hospital No. 6, Fort McPherson, Georgia.

(Authority to publish granted: Board of Publication, S. G. O.: Loy McAfee, Secretary. July 25, 1919.)

The relationship of physical disabilities to industrial work and society has become one of the most important problems facing us to-day. Indeed, the past war has brought to light the importance of the management of nerve injuries relative to the concomitant physical disabilities; we therefore find, neurologic surgery playing an ever increasing role.

The object of this paper is to mention briefly the fundamental principles concerning surgery of the peripheral nerves. The sequellae coming more under the hands of the orthopedist, I shall endeavor to leave the treatment of the deformities to that branch of surgery. Many of the orthopedic problems are more simplified when we take into consideration the proper restoration of the efferent and afferent impulses between muscle and the central nervous system. The nerve conductivity may be restored and yet the function of the muscles and joints not restored because certain fundamental orthopedic principles are neglected. The nerves on the other hand may be injured beyond repair, and then the problem arises how to manage the tendons or joints for best function. Hence many orthopedic and neurological problems are dependent upon each other for the best results.

Every nerve fiber that is separated from its trophic center degenerates whether it is repaired immediately or late. This process is called Wallerian degeneration and occurs generally within two weeks. Frequently the loss of voluntary muscle power is due merely to muscle exhaustion or else bound down by adhesions, and again we may find the reflexes present in functional disorders or lesions of the central nervous system. Consequently we will find symptoms varying in degree and in time of injury; we should therefore make a most thorough series of examinations at different intervals before arriving at definite conclusions relative to diagnosis, treatment and prognosis.

Functional Types.

Functional types have paradoxical symptoms and disproportionment of paralysis to injury and correspond to no definite anatomical region—function instead of movement being impaired. There is no atrophy, loss of tone, nor loss of reflexes. The trophic and electrical conditions are good. Anaesthesia may be diffuse and contractions may disappear under an anaesthetic. At times it is extremely difficult to determine between functional and organic conditions, for occasionally both may be found in the same nerve.

Muscle Exhaustion.

In this condition the findings may be practically identical with those of muscular

should wait for a period of three months from injury or after infection has disappeared, care being given to the muscles in the meantime.

We find there are only about forty per cent. of all nerve injuries during the past war that needed or will require surgical intervention either for liberation, suture or grafting. There are some questionable results by surgical intervention, but when done properly and at the right time, with the post operative treatment properly carried out, the results will almost invariably be better. The writer has seen three cases which required eighteen months after suture before showing improvement. However, generally speaking, twelve months should be the limit before second intervention is contemplated. The apparent failures of regeneration after suture may be due to alcoholism, malnutrition or anemia of the patient, or improper coaptation of segments.

It would seem that the best and most conservative indications for operation are: elapse of time for progress, absence of new axis cylinder in the peripheral segment; loss of the reaction to faradism, intense pain, and fixity of symptoms. Regeneration is a little more rapid when the delay is not too long, and spontaneous regeneration may take place even in cases of complete interruption. This makes it a much more delicate problem for surgical intervention; hence, we are confronted with the most careful and prolonged clinical examinations. Even then there are doubtless cases for operation. But when in doubt explore the condition with a possibility of much being gained and nothing lost under good technique. Cicatrical tissues or neuromatous formations, whether external, interstitial, or on nerve ends, are obstacles to the progress of regeneration and should be removed. When in doubt at time of exploration, use direct electrical examination of the various nerve bundles above and below the lesion. If a poor response or a hard nodule is present do a resection of nerve.

In operating on a nerve the most thorough technique should be carried out for liberation, suture, and especially for grafting. In exploring for the nerve, the skin incision should not be directly over the nerve when it is superficial. When possible, dislocate a muscle rather than incise it for exposure. It should be remembered that the less trauma produced to the tissues and especially to the nerve the better the prognosis; for traumatized and devitalized tissues invite infection and cicatrical formation, especially when extravasated blood is present. The nerve should never be touched except when absolutely necessary, nor the myelin sheath be pierced except at the suture line. For then neuromatous or fibrous formations are invited by the trauma and probably the escape of axis cylinders may take place through the aperture. Hence nerve blocking for anaesthesia is inadvisable unless in a case where other anaesthetics are contraindicated. It is better when possible to locate both segments in their normal anatomical relation and then dissect the surrounding tissues from the nerve towards the lesion. Generally, when the lesion is attacked directly through the cicatricial tissues we almost invariably have to hunt and frequently injure healthy nerve fibers before the curled up segments are found. It is believed that healthy axis cylinders are present when each segment bleeds upon resection. In this or any other operative procedure time and the minimum amount of trauma are very important. Any external constriction should be liberated from the nerve, and when in doubt about the interstitial constriction a resection should be done.

There should be little or no tension at the suture line. To do this, first flex the joint. The nerve most usually can be freed from its bed preferably below or next above the lesion for some distance and then stretched by pulling from the end with gauze. If this is insufficient then transplant the nerve into a new bed, stretch it and flex the joint. Most usually this will suffice; if not, then a nerve graft should be considered by taking a section of some less important nerve, preferably the musculo-cutaneous of the leg. Remember that there is nothing but nerve tissue, preferably like kind, that can serve as a conductor for the new axis cylinders. Suture by division of the same nerve is

paralysis, but with the allowance of time and a complete relaxation of the muscle there is an early and rapid return of response to stimuli and function.

Ischaemic Paralysis.

Ischaemic paralysis results either from arterial obliteration or prolonged constriction of a limb. The symptoms are very pronounced in ischaemia, trophic disturbances, electrical inexcitability and bony decalcification. The tissues have a woody consistence due to the oedoematous infiltration, and later a fibrous formation. The arterial pulse is diminished or lost and thereby produces considerable paraesthesia, pain and cyanosis. There being no nerve topography, the disturbance thus is segmental and most marked at the periphery.

Nerve Constriction.

In this the axis cylinders are thrown out of commission but not degenerated unless the condition has persisted for a long time. The constriction may be either extramedullary or intramedullary and due to hemorrhage in nerve or surrounding tissues, infection or callus formation. Muscular tone and function being better retained, we therefore find atrophy and reaction of degeneration less intense. The reflexes and anaesthesia are increased, though variable in intensity and extent.

Nerve Irritation.

The skin is moist, glossy and reddened. The hyperaesthesia extends beyond the area of nerve supply. Trophic disturbances are constant in the skin and nails. There is pronounced pain in muscle bellies and nerve locally at the point compressed. The bone softens and the muscle becomes contracted and undergoes a fibrous formation which is more pronounced in all tissues and joints affected. Paralysis, muscular atrophy, and reaction of degeneration are only partial. There is presence of muscular tone and an increase of idio-muscular reflexes. Trophic and pain symptoms, pricking and tingling in character, and absence of formication, are most pronounced. Slight nerve irritation at times cause profound contractures out of proportion to the lesion, as for example, Duplytren's contracture of the palmar aponeurosis. The cause may be from trauma, either external or internal, of nerve or from infections and toxemias. Alcoholic injections, 60 per cent., may be used in less intense forms for palliative treatment. Such a procedure may produce a degeneration of the nerve fibres, making them sclerotic, and sooner or later there is a return of the distressing symptoms.

Causalgia is the most violent form and the most resistent to treatment. The pain is most intense and burning in type locally, at the periphery, or radiatively. All slight cutaneous stimuli, sudden emotions, or air exposure, cause very severe pain. This condition is thought to be due to some irritation in the peri-arterial sympathetic plexuses, because the median and sciatic nerves lying in close proximity to the accompanying arteries are most frequently involved. Most frequently there are hypertrichosis, muscular infiltration and slight paralysis, no marked atrophy or electrical disturbances. Radio-therapy and moisture help occasionally. Freeing of nerves, resection, or alcohol injections frequently prove ineffectual. It is better to denundate the accompanying artery and to resect the surrounding sympathetic plexus (Leriche method), which treatment usually suffices.

Nerve Interruption.

In nerve interruption the reaction of degeneration is complete. At times muscle may contract slowly to galvanism. Immediately following injury is hyper-excitable. There is the characteristic fixity of symptoms in the paralysis, atrophy, and flacidity of muscle; loss of tone and of all reflexes and response to nerve stimuli; sudden and complete anaesthesia of all structures supplied by the nerve; and absence of trophic disturbances.

Surgical Indications and Technique.

Every nerve injured tends to regenerate. Surgical intervention only aids the progress, either by relieving the obstacles to regeneration or by bringing the segments of the medullary sheaths in coaptation so the axis cylinders can be guided in their progress. Though primary suture is always desirable, still, a person should not operate immediately after injury unless there is direct evidence of complete nerve interruption, but

hardly logical except where there are some fibers transferred from a healthy nerve to one that is paralyzed, as in an anastomosis of few of the fibers from the hypo-glossal to the facial for facial paralysis. When the division is made in the same nerve it should be made from the peripheral segment. If perchance the splice did unite and healthy axis cylinders were transmitted, there still would be impairment because part of the axis cylinders are interrupted and would have no means of reuniting and would be left then to wander in the surrounding tissues. All the above methods proving a failure, it would then be necessary to do a bone resection, usually the last recourse for nerve approximation. Finally, in an irreparable injury a tendon transplant may be done to restore balance of power and function in the paralyzed muscle. It is of vital importance to have like tissues approximated, that is, motor or sensory bundles to motor or sensory bundles, and myelin sheath to myelin sheath. It is better to use only fine cat-gut through the myelin sheath for coaptation and never to use silk interstitially. Hence we place theoretically in their proper places the motor and sensory fasculi and eliminate the risk of defective regeneration.

It is unnecessary to have tight coaptation of the segments for in three or four days the space will be united by the proliferation of the neurogliar cells due to nerve vascularity. The ideal operation in nerve suture then is to have a minimum of trauma either extramedullary or interstitially, and a close coaptation of like fibers so that the axis cylinders of the central end are made continuous with those of the peripheral end. Any operation where there is a difference of anatomical relationship, is defective, as for example, the lateral implantation, suture by division, or transplanting one nerve into another, or unlike fibers into another. On the big trunks it is feasible to do a partial resection of the nerve. The implantation of foreign substances around the sutured nerve to prevent fibrous formation rather produce than hinder the cicatricial formation and also lessen the blood supply. However, muscle or fat may be placed in juxta position of nerve and periosteum or skin to prevent it coming in contact with callous formation or adherent to the skin and also to form a protector for external stimuli. The best way to avoid cicatricial formation is to have a thoroughly dry and aseptic field, minimum of trauma to the tissues, avoidance of septic or inflammatory areas and early mobilization of the affected parts.

Treatment.

The positive galvanic pole, diathermy, or radiotherapy should be used to soothe pain and accelerate regeneration by keeping up contractility and tone of the muscles. Warm baths, preferably the paraffin bath, followed by daily massage, mobilization and relaxation of the effected parts are of prime importance to prevent fibrous formation and adhesions from taking place or to hasten their absorption. Gymnastics, continuous counter pressure of the contractures, muscular reeducational work, and warmth are useful in hastening a return of the voluntary movements after regeneration. It is well to remember that inactivity of the parts is the main cause of the deformities.

Nerve Regeneration.

The improvement depends upon the rapidity of growth of new axis cylinders which begin about the fourth week and progress about one millimeter per day under favorable conditions. Formication is the best and most important early sign to appear, which shows the progress and degree of regeneration. This sign has a level moving downward as the axis cylinders progress and becomes less pronounced when they reach the periphery. Next to this is the muscular tone and sensibility to galvanism at the motor point, while the reaction of degeneration diminishes. Sensory functions take place similar to the muscular with a shrinkage of zone following the new axis cylinders. The deeper sensibilities return earlier than the tactile, protopathic and epicritic. Paraesthesia diminishes as restoration takes place and is followed by voluntary movements, faradic excitability, and normal sensibility.

OPHTHALMOLOGY DURING 1918.

By Dunbar Roy, A.B., M.D., F.A.C.S.,

Atlanta, Ga.

The world war has affected every domain of living and likewise ophthalmic literature has not escaped its influence. Ophthalmologists have been quick to offer their services and already a few have died in the service of their country, men whose contributions to ophthalmology have always been welcomed and who were known as original thinkers and experimenters. As was stated by the writer in the review of last year the ophthalmic medical journals have all been combined under the name of the new periodical, "American Journal of Ophthalmology," with Dr. Edward Jackson as editor-in-chief, assisted by a splendid corps of ophthalmic aids.

During the last year the question of hygiene of the eye has received considerable attention along with the general subject of hygiene which has become of so much importance in the medical management of large bodies of troops.

It is indeed true that certain types of eye troubles, whether inflammatory or anomalous in their development, are much less frequent to-day than they were several years ago. This can only be attributed to the wide-spread teaching of hygienic and prophylactic principles to the public in general.

One of the most comprehensive articles on the subject of examination and treatment for eye diseases among school children appeared in the New York Medical Journal of Nov. 24th, 1917, from the pen of Dr. A. Rovinsky. He has very thoroughly considered this whole subject with due reference to the various men who have worked along this line and whose views must always carry much weight. We give here Rovinsky's conclusions, although it is questionable whether these are practicable in smaller cities:

1. The role of the eye in the human economy is so great and its importance in the earning capacity of the individual is so essential that no means should be spared by the State to conserve vision from the earliest childhood.

2. An irreparable deterioration of vision is apt to result from ocular affections that may not appear serious even to the medical man not specially trained in ophthalmology, such as maculae or leukomata centrally located consequent upon the several varieties of keratitis, corneal ulcers, etc., the early recognition of such conditions in school children is most imperative and it devolves on the State to render proper and timely aid in detecting and treating such affections whenever the parents are unable to obtain such aid themselves.

2. The establishment of school eye clinics should be considered as a part of the system of medical school inspections, their number to conform to the needs of the surrounding neighborhood.

4. As regards contagious eye diseases, it should be made obligatory upon the parents of public, parochial, and private school children to report to these school clinics for diagnosis and treatment until the condition is cured and the child readmitted to school, unless they present sufficient evidence that their children are being treated by private physicians.

5. Instead of resorting to private charitable agencies to procure eyeglasses for children who need them but are unable to obtain them, it should be the business of the clinic to supply the children with glasses either at nominal cost by arrangement with competent opticians, or free of charge.

A very interesting and important subject has been discussed by B. N. Harman in the British Medical Journal of July 17, 1917. It deals with the "Effects of Cinematograph Displays on the Eyes of Children." According to this writer the unpleasant effects associated with the cinematograph exhibition, so far as they affect the eyes, are due to the following conditions: (1) Glare, (2) Flicker, (3) Rapidity of motion, (4) Concentration of attention, (5) Duration of exhibition. He then discusses each one of these points and shows how they can be detrimental to the eyes. Harman closes his

article with the following recommendations: (1) The reasonable illumination of all parts of the hall not directly beside the screen. (2) The improvement of the movement of the film so as to reduce flicker, and the withdrawal of films immediately they are damaged. (3) An improvement in taking the picture so as to bring the rate of motion of the objects depicted more nearly to the natural. (4) The increase in the number of intervals in the show, and the interposition of exhibitions other than that of the optical lantern. (5) The limitation of shows for children to one hour, and the prohibition of "repeats." (6) The reservation of the children's seats to the "optimum" position in the hall. With such provisions the indulgence in a show once a week should do no harm to the eyes of a normal child.

In discussing vernal conjunctivitis, F. Allport has reported such a case (palpebral form) where a most excellent final result was obtained by the use of the X-Ray. This is by no means the first case reported where this method of treatment was used. The use of radium has also been recommended by various writers in the management of such cases. This procedure is uqite applicable to the palpebral form but in those cases of the bulbar variety, such treatment might prove detrimental to the vision. Several years ago the present writer discussed the subject of vernal conjunctivitis in the South, especially among the negro race, which seems especially liable to this ocular disease. However, it is only the bulbar form which is seen in this locality and practically never the palpebral form. The bulbar form is so severe that frequently only a small portion of the central cornea is left which is not invaded. A remedy for this variety of vernal conjunctivitis is certainly much to be desired for in the writer's hand no remedy so far has been found to be curative.

Since the introduction of vaccination for the prevention of typhoid fever an article by de Lapersonne in the Arch. d'Ophtal., April, 1917, dealing with ocular symptoms and lesions following such inoculations, comes at a very opportune time and his summary which we here publish will no doubt be read with interest.

He summarizes his opinions as follows:

1. Infections resulting from faulty technique, often serious in character, are not due to the direct action of the vaccine.

2. Antityphoid vaccine has given rise, directly, to a very small number of ocular lesions, notably to corneal herpes (ascribed to toxic neuritis of the trigeminal), and to iridocyclitis in patients with constitutional taint. Glaucoma, secondary to iridocyclitis, may develop during the reaction which follows vaccination.

3. No instances of definite lesions of the optic nerves or tracts or of oculomotor paralysis have been recorded.

4. Primary acute glaucoma may develop during the vaccination reaction.

5. No lesion should be ascribed to inoculation which does not arise during or very shortly after the series of injections, and while the thermometer affords evidence of a severe reaction.

6. An ophthalmoscopic, in addition to a medical, examination, should be made before inoculation. It is inadvisable to submit to inoculation, syphilitic, tuberculous or arthritic subjects over 40 years of age who have had lesions of the uveal tract.

A very excellent article on the subject of ocular headache has appeared in the Northwest Medicine of December, 1917, by Dr. D. H. Bell. The main points of this article have been well discussed and much food for thought can be obtained from this well-written article. The conclusions given by the writer are very succinct and could be largely subscribed to by every oculist. These are:

A case of suspected ocular headache should be carefully refracted under a cycloplegic.

All children with crossed-eyes, either with or without headaches, should be refracted between the ages of 3 and 6 years.

All children entering school should be examined by a competent nurse for signs of eye-strain and, if found so affected, should be required to have a careful eye examination and proper treatment.

Excellent vision in the presence of other evidences of eye-strain is of no diagnostic value.

Many serious eye diseases are not accompanied by headache but show only by failing vision.

One-third of cases of migraine can be relieved by glasses.

Ninety per cent. of eye headaches can be cured by proper refraction and treatment to the eyes.

The cure of an eye headache often takes time because of poor nutrition of the eye and disturbed relations of convergence and accommodation and also the training of new habits.

All adults should wear glasses as soon as the near point recedes beyond fourteen inches or the lines begin to blur, in order that headaches may be avoided as well as serious injury to the eyes.

Military Surgery of the Eyes.

The writer wishes to say that he is much indebted for this summary to what is found in the Medical Year Book of Eye, Ear, Nose and Throat Diseases for 1918.

Giuseppe, quoted in the Ophthalmic Record, December, 1917, has discussed the nature of war injuries to the eye as observed among the Italian armies. He finds that 16 per cent. of injuries of the eyes are from machine guns or shrapnel, 50 per cent. from flying scraps of stone, 5 per cent. from trachoma, and 25 per cent. from asphyxiating gases. The toxic gases which induce much lachrymation are far less dangerous to the eyes than the usual asphyxiation gases. When the latter act on the eye long enough they deprive the cornea of sensibility and if the injury is severe, small foci of necrosis develop, there is severe pain in the brow, back of the neck and temples, and the eye slowly dies, the eyeball becoming completely atrophied.

Terrien in Arch. d'Ophtal, Vol. V., No. 11, has discussed a very important subject and that is the "Conservative Treatment of War Injuries of the Eye." While he advocates removal or attempted removal of the foreign body in the majority of cases, he is of the opinion that in a certain proportion, especially when a moderate degree of sight is retained, it is inadvisable to operate. Such cases are those in which the eye has exhibited no signs or irritation, or, in other words, shows a marked tolerance of the penetrating particle. He publishes the notes of five soldiers, in each of whom the presence of a foreign body within the globe was proved by X-ray or ophthalmoscopic examination. In all these cases the wounded eye was free from pain, redness, or any other sign of reaction set up by the foreign body. In all, the eye retained some sight, and in one, vision was practically normal. In one man the fellow eye was badly injured and nearly blind.

It is noteworthy that none of Terrin's patients remained under his observation for more than three months; hence the possibility of the onset of trouble after a long interval can not be wholly excluded.

The variety of sympathetic inflammation among the large number of injuries seen during the present war has been noted by many observers and several have called attention to this subject in the various ophthalmic articles which have been published.

One of the best discussions of this subject is from the pen of Weekers, in the Arch. med belges, March, 1917. The points brought forward in this article are so important that we take the liberty of quoting this abstract:

What are the risks (to the second eye) of sympathetic disease? Statistics in regard to this point show considerable divergence. For example, in wounds of the eye with penetration of foreign bodies, Ohleman found sympathetic ophthalmitis in 0.7 per cent.; Knies had 3 per cent. in wounds of the eye, and Hobby 11.6 per cent. Similar differences exist as regards the frequency of the complication after surgical traumatisms. After removal of cataract, Eversbursch and Pennerl had 1.3 per cent. of sympathetic ophthalmitis. Agnew 2 per cent. or 3 per cent., and Steffan no less than 21 per cent. The difference between the figures Weekers is inclined to trace to confusion between sympathetic irritation, on the one hand, and sympathetic inflammation, on the other. If typical cases of sympathetic inflammation alone were included, Weekers believes that the apparent frequency would be considerably reduced.

For purposes of prevention should we

hasten to remove a wounded eye, already lost from a functional point of view? There is nothing pressing about the matter, and we may in every case wait at least for a few days. Whenever the wound is such as to allow of the hope that the eyeball will keep its shape, Weekers believes that conservative means should be adopted. The condition of the wounded eye must be our guide. Should it remain painful and irritable for a month or six weeks after the injury, it must be sacrificed. We should not wait so long, indeed, if the globe appears to be on the way to atrophy or if exudative iridocyclitis develops in the injured eye.

Which should be preferred, enucleation or exenteration? During the last eighteen months Weekers has not performed a single enucleation. He has resected the cornea and a narrow band of the neighboring sclerotic, emptied the content of the eye ball, and curetted the sclera with care. He claims that exenteration gives as much security against sympathetic disease as does enucleation, while the esthetic results are much superior.

Weekers does not share Meller's view, namely, that sympathetic ophthalmitis is due to the action of a microbe, which may (under certain circumstances still unknown) develop in the blood. Given a wound of the eye, this agent proliferates in the wounded tissues, its virulence augments, and it passes anew into the blood, whereby it reaches the other eye, where it sets up sympathetic inflammation. Dimmer inquires whether the extreme rarity of sympathetic ophthalmitis in war wounds is not a question of terrain. Can it not be explained by the good general health of soldiers, who are a selected body of men?

The present-day rarity of sympathetic ophthalmitis is to be explained, in Weeker's view, by the "vulgarization," so to speak, of asepsis and antisepsis, which tells all along the line—in first aid, during treatment, and in operations on the eye.

The subject of movable stumps after enucleation for war injuries has been very thoroughly discussed by Terrien in Arch. d' Ophtal., June, 1917, and after considerable experience with this class of cases he has arrived at the following conclusions:

1. Stumps which give the best results are "natural stumps" (atrophic, painless globes, posterior segments of globes, scleral envelops left after exenteration). Attempts should be made to obtain such stumps by conservation treatment, or by the various procedures for removal of the anterior segment of the eyeball, or by exenteration of the globe. By none of these methods can the risk of sympathetic ophthalmitis be wholly excluded, and they can not therefore be adopted systematically.

2. Enucleation, when necessary, should always be performed with care, and should be completed by the graft of a portion of costal cartilage, about 1.5 cm. in length, taken from the patient, into the capsule of Tenon. The tendon of each rectus muscle is sutured to the cartilage. The motility thus obtained is perfect, the sinking of the glass eye is obviated and the prothetic result is excellent. It is equal to that obtained by "natural stumps" and less dangerous, all risk of sympathetic ophthalmitis being avoided. This appears to be the method of selection.

3. In default of a graft, and after simple enucleation, prothesis can be greatly improved by the employment of artificial stumps consisting of a hard ebonite shell in an envelope of soft india rubber, which moulds itself at the bottom of the conjunctival sac, or by the use temporarily of moulds of soft wax introduced behind the artificial eye. This is an excellent method of remedying the unsightly sinking of the glass eye, and at the same time giving it a certain degree of mobility. It causes no discomfort to the individual, and it is only surprising that such means of remedying a deformity were not introduced long ago.

4. If the culs-de-sacs are contracted, or irregular and will not hold an artificial eye, progressive dilatation by globes of increasing size is a simple and effective procedure. It is generally preferable to, and more successful than, any operative measures designed to restore a contracted conjunctival cavity.

In conclusion the writer wishes to say

that he has prepared this paper as a partial summary of the important work done during the last year in the domain of ophthalmology. He would make the suggestion that the same should be done in every branch of medicine and surgery at our annual meetings, believing that such papers would be of great help to many men who are not able to keep up with the voluminous literature dealing with these subjects and who would be much benefited by having their minds refreshed by these concrete summaries.

WRITERS' CRAMP.

By Theodore Toepel, M. D., Atlanta, Ga.

Writers' cramp is one of the many occupation neurosis, and I have selected it for description because it is more frequent than any other, although the number of cases has appreciably diminished since the introduction of typewriters, which has, of course, entailed a new form of occupation neurosis.

Among the general underlying conditions which favor the development of writers' cramp are neurasthenia, a variety of diatheses and general conditions (rheumatism, Bright's disease, syphilis, arterio-sclerosis), over exertion, trauma, alcoholism, overuse o tobacco, etc. Emphasis is often laid upon emotion, especially the emotion of anxiety, as a contributory cause. Some authors speak of influences lowering the tone of the nervous system, hypo-oxidation and the like; or the use of poor pens; or the continual improper holding of the pen; or even the use of poor paper. Somewhat more to the point probably are suggestions to the effect that painful affections of the fingers, neuritis, and neuralgia lie at the basis of certain cases. Much has been written concerning the art of penmanship with relation to the use of the larger muscles, and an excursion from the elbow and shoulder rather than from the wrist alone. It is thought that the employment of these wider excursions diminishes fatigue, on the basis that the smaller the muscles, the greater the fatigue.

1. True writers' cramp in the narrow sense of the term (neurosis minus local peripheral, structural, or functional changes): Poore found 32 cases in a personal series of 75 which he was inclined to put in the group of true writers' cramp, but he states that "In every case of impaired writing power that I have seen, there has been evidence, more or less marked, of derangement of one or more of the muscles used in writing."

The sub-groups of so-called true writers' cramp are, according to Gowers and most systematic authors, the following:

(a) Spastic.
(b) Paralytic.
(c) Tremulous.
(d) Neuralgic.

(a) **Spastic Writers' Cramp.**—The onset in the spastic form is gradual, as a rule, beginning with slight errors in penmanship, such as irregular strokes and marks due to unintended movements; the writer finds his pen being held overtightly; the tight holding of a pen augments to a genuine spasm, and the spastic condition, at first confined to a few muscles, spreads to more numerous muscles.

The startling feature of such a tonic or clonic situation in the writing arm of the patient is that the patient at the same time can perform quite properly and readily practically all other co-ordinative movements as well as simple movements which are innervated through the same peripheral nerves. Such movements as the handgrasp are retained, and the force of the grasp is as a rule unimpaired, although occasionally somewhat weakened.

(b) **Paralytic Form.**—In this form the subject, after essaying the use of the pen gets a feeling of weakness and is unable to bear hard enough upon the paper to make properly legible marks. The paralytic form does not occur abundantly in the literature of writers' cramp, but is mentioned as an end phase in certain cases.

(c) **Tremulous Form.**—The spastic and other forms of the disease often begin with tremors or show tremors near the onset. The writing in the pure examples of the

tremulous forms is not unlike the writing characteristic of paralysis agitans.

(d) **Neuralgic Form.**—Perhaps the neuralgic form stands next to the spastic form of true writers' cramp in frequency. In this form evidences suggesting neuritis are not greatly in evidence. The local neuralgia of independent nature is often found spreading from a single point in the hand and to accompany movements, but the execution of all other movements is made without pain. Of course, if the pain were found following the course of a particular nerve, the chances are that the diagnosis of neuritis would be preferred.

2. **Paralytic Writers' Cramp.**—This form is intended to be distinct from the subform of the paralytic true writers' cramp, since the present form is a form in which the paralysis of writing is due to the pressure of aneurysm on a section of the ulnar nerve, to local pressure, etc. It is conceivable that alterations in fine movements may be brought about by these pressures and yet leave enough of the major functions of the arm intact to convey the impression that we are dealing with true writers' cramp. The diagnosis must, of course, depend upon other investigations than those of the writing power.

3. Allied with the paralytic group just described is a group called "degenerative." In this group, the first sign of the degenerative neural change is the impairment of writing power; but in cases of this sort, the functional impairment gradually or rapidly passes off, and is supplemented by impairment in coarser functions.

4. The spasmodic group may be of congenital origin, in some cases it may be due to hemiplegia.

5. Neuritic or neuralgic group, it is highly probable that we have to deal in this group with a mild form of neuritis, or at least some form of vasomotor irritability involving one or more of the nerves of the affected arm. The symptoms involve a wider area than the writing muscles. Characteristic is the appearance of tenderness of the nerves. Many of the patients complain of a queer feeling in the arm, especially at night, with a constant desire to shift its position and an inability to make the arm comfortable in bed.

Diagnosis: The difficulty lies in choosing the condition fundamental in each particular case. The choice usually lies between the supposition of a true neurosis in the sense of a disease not primarily due to local structural changes, and one or other forms of neuritis, neuralgia, myositis, myalgia, or other local disease.

The fact seems to be that the majority of all cases of writers' cramp are cases which fall outside of true neuroses. It is well to concede that there may be a small group of truly functional cases, and in any event to remember that in accordance with well-known principles, the range of functional symptoms in a given case may exceed the range of the immediately structural symptoms. Treatment may be governed accordingly. Taking for granted that the case presenting itself for treatment has in practically all cases made a diagnosis before resort to the physician, the physician must launch his differential diagnosis in the first place in the direction of excluding constitutional disease in which the writing defect may be merely the most striking phenomenon of weakness because perhaps it affects the earning power of the subject. If constitutional disease, the common neurological affections and psychiatric conditions of a pronounced character can be excluded, the process of diagnosis must begin to deal more particularly with orthopedic conditions, such as osteitis, periosteal changes, tenosynovtis, arthritis and various forms of myositis and other myopathy. The discovery of these orthopedic conditions does not always mean that the entire condition is an orthopedic one. It may accordingly be well to hold in mind that osteopathy or myopathy is part and parcel of a more general process involving also the nerves, and that any or all of these changes may be associated with, preceded by, or followed by neurotic changes in the sense of purely functional conditions.

Range of Treatment: The range of treatment is wide, corresponding to the underlying causes peculiar to this condition. On the general hypothesis of fatigue a number

of apparatus have been constructed which is probable that no one of these pieces of apparatus has been effective. To meet local conditions, special gymnastic movements may be prescribed, active and passive movements, galvanic or farradic electricity may be of some benefit. Hydrotherapy has come in for a share of attention. There are some cases on record where Bier's hypere method has been successfully employed. There is a large groupe of hygienic measures; as attention to the eyes and proper posture, condition of the nerves and condition of the muscles, schemes for the removal of the diffculty by suggestion or by subtler methods of psychotherapy. There is a group of recommendations begining with rest. The use of the other hand, the use of the typewriter instead of pen and paper, and mirror writing (with the object of the correction of early acquired habits,) is beneficial in suitable cases. As a general rule in the treatment of these cases stimulation is advisable, except where neuralgia is predominant.

THERAPEUTIC INSTRUCTION.

W. A. Bastedo, New York (Journal A. M. A., Aug. 16, 1919), taking as his text from McCudden "The teaching of therapeutics is one of the weakest points in the training of the medical student," gives his views as to the ideal course in therapeutics. Summarized they are substantially: In the pretherapeutic teaching insure habits of physiologic and pharmacologic thought by allowing longer time in the college curriculum for training in physiology, physiologic chemistry and pharmacology. For theoretical teaching utilize systematic quizlectures covering all the deseases of internal medicine in all their phases. Select the teachers for this from those who, in their practice, have acquired special ability and special knowledge for thinking physiologically and pharmacologically. Omit didactic lectures, except the few required to teach principles in special fields, and assign these to departments best fitted for giving them. for the clinical teaching, teach the student to review the patient as a whole instead of as a collection of isolated symptoms, and teach him to isolate himself while he deduces the treatment from the facts gained. In the dispensary and hospital, utilize specialists in the various branches, and in the hospital increase the medical staff and reduce the service assigned to each attending physical. Demand that rounds be therapeutic as well as diagnostic in character, and that the results of treatment be record.-ed. Have special clinics and teachings headed by clinicans well versed in the action of drugs and able to devote special attention to therapeutic problems. For teaching special therapeutic methods, arrange for demonstrations in despensaries and institutions, in which the necessary operator and equipment are available. In the dispensary and hospital, have the patients grouped to permit a satisfactory division of labor, and lastly, above all things, teach the students to think as the practicing physician should think.

VOMITING IN PREGNANCY.

In a rather elaborate paper, F. W. Lynch, San Francisco (Journal A. M. A., Aug. 16, 1919), considers the severe vomiting of pregnancy, which, as Mathews Duncan has pointed out, must be distinguished from mere vomiting in pregnancy or the ordinary morning sickness. It is difficult to estimate the frequency of either of these. Both seem to be more frequent in America, France, England and Russia than in Germany; but Lynch rather discredits the truth of the observation. Little is known of the etiology of the condition, and the pathologic picture varies within wide limits, but the liver, he says, is the seat of the most marked degenerative changes. Lynch reviews some of the most important literature of the subject, more especially the work of Williams and Folin, in this country. His own observations, made soon after those of Williams, have convinced him of the general truth that the more serious vomitings are charcterized by an increase of urinary ammonia; but because of the many factors influencing the coefficient, it is better to state the ammonia nitrogen in terms of absolute amount, since

without this control the ammonia coefficient may occasionally be misleading. He gives a chart that shows how the ammonia coefficient occasionally fails to show the true facts. He has personally, never seen a patient apparently clinically in danger of life with normal urinary ammonia. He has had a study of the normal acidity of the blood in pregnancy made by his assistant. The amount of acidity is not exceeded in the vomiting cases. The simpler nausea and vomiting in earlier pregnancy largely correspond to the clinical picture of the so-called gastric neuroses of the acidity type, but the subacidity type is not uncommon, and is often seen in the most troublesome cases. The treatment demands rigid attention to details, and Lynch says he cannot urge too strongly a careful study of the gastric secretion and titration of all vomitus. Any condition mentioned in the textbook as a causal factor must be carefully attended to. Attention must be given to diet, excretions, etc. Lynch goes into some of these essentials with considerable minuteness What constitutes a safe limit of urinary ammonia cannot be said. It seems rational to treat the acidosis rather than the actual vomiting when the ammonia runs very high, and to induce abortion in the presence of unfavorable symptoms. Hospital interns should be taught the method of ammonia determination. The method of abortion is important, and Lynch cautions strictly against the use of chloroform and declares ether to be objectionable. Local anesthesia suffices for nearly all neccessary procedures, and it may be augmented by nitrous oxid-oxygen, in analgesic doses only, keeping the patient in the twilight stage. Everything possible should be done to avoid catheterization. As long as the medical profession and laity alike expect vomiting in pregnant women, we must expect to give treatment in serious cases.

ABDOMINAL SURGERY.

Special points in abdominal surgery deduced from experience in the late war are brought out by G. W. Crile, Cleveland, (Journal A. M. A., Aug. 16, 1919). It was found that wounded soldiers, if not in impaired health from exhaustion or exposure or suffering from shock or hemorrhage, showed a remarkable resistance to infection as compared with the average civilian patient. The time between the receipt of injury and reaching the hospital was a vital factor. After ten hours had elapsed, the prognosis became progressively worse, until the twentieth hour, when the advanced condition was such as to render operation inadvisable. Lessons of the hollow viscera were far more grave than those of the liver or spleen. Injures of the latter organs did not generally require surgical intervention exception to control hemorrhage. Badly shattered spleens were best exised. Lesions of the large intestine were more dangerous than those of the small, where leakage was sometimes surprisingly controlled by contraction of the muscular coat. Stomach lesions are comparable to those just mentioned. Combined lesions of the thoracic and abdominal viscera were grave. The thoracic approach for surgery is better than the abdominal region. Internal hemorrhage was indicated by a mounting leukocytosis and lessening temperature. The best treatment for hemorrhage and shock is heat and rest, fluids, morphine and transfusion. The Interallied Surgical Congress recommends for such cases nitrous oxid-oxygen anesthesia combined with local aresthesia. Dr. Taylor, head of the British Anesthetic Service, reports a mortality reduced from 50 to 29 per cent. by such treatment of abdominal wounds, using infiltration of the abdominal wall with eucain or procain for local efects. In the Lakeside Unit Hospital somewhat better results were obtained by transfusion before and after operation in serious abdominal lesions. The general experience was that during winter months bronchopneumonia was a more serious cause of mortality than peritonitis. Retroperitoneal wounds resulted in a higher mortality than intraperitoneal, as in civil surgery. "Military experience also emphasized the essential points in the treatment of adbominal infection established by civilian experience, namely: (1) nitrous oxid-oxygen as anesthetic of choice; (2) anesthetized incision; (3) accurate, clean-

cut operation to diminish both infection and shock; (4) adequate drainage; (5) Fowler's position; (6) vast hot packs over the entire abdomen, spreading well down over the sides; (7) 5 percent. sodium bicarbonate, with 5 per cent. glucose by rectal tap, continued as long as it is tolerated; (8) primary lavage of the stomach, repeated only if indicated; (9) from 2,500 to 3,000 c.c. of physiologic sodium chlorid solution administered subcutaneously every twenty-four hours until period of danger is past; (10) in grave, acute peritonitis, morphin given hypodermically until the respiratory rate is reduced from 10 to 14 per minute and held to this rate until danger is past." The treatment of the exhausted and infected soldier would also apply to similar conditions in the civilian. Assuming equally good technic with both, a slow surgeon has a higher mortality than a rapid one. Sutures are easily tied too tight. Drainage is not called for in operations on the small intestine, but may be used on those of the large intestine, but never in contact with the line of suture. Retroperitoneal infected wounds should be treated by the Carrel method. The abdominal wall may be divided with impunity in any direction, and, in great emergencies, a temporizing fistula may be made by marsupializing a hopelessly damaged coil. While not every perforating abdominal wound contains perforated viscera, every one should be opened. He has seen patients with widely torn abdomens and cold intestiness covered with mud get well under the described treatment.

INFLUENZAL PNEUMONIA.

H. F. Stoll, Hartford, Conn. (Journal A. M. A., Aug. 16, 1919), reports an experience with fifty-six patients with influenzal pneumonia, 70 per cent. in poor condition, who were treated with the blood or serum of convalescent patients, with approximately 50 per cent. mortality. Twelve patients were treated within two days after development of the pneumonia; ten of these showed prompt improvement and recovered. One of the two patients in the two fatal cases had incipient empyema. Thirty-two patients had been ill for an average of 3.9 days when first treated, and 72 per cent. of these showed distinct betterment. Of twenty-four who had been ill 5.4 days when treatment was given, 80 per cent. of whom were seriously ill, 17 per cent. showed improvement. Nine patients, six of them seriously ill, were treated with blood or serum from patients convalescent from influenza but not pneumonia, and only two with chill. Nineteen patients received transfusions of blood or serum from individuals who had not had influenza or pneumonia. The results were the same whether the prognosis was good or bad, 20 per cent. seemingly benefited. Nine patients were given blood or serum from healthy adults, vaccinated beforehand with triple pneumonia vaccine. In only one instance, in a case of lobar pneumonia with leukocytosis, did improvement follow. Sixteen per cent. of all the patients treated with convalescent serum reacted with a chill and rise of temperature. Prompt improvement followed this reaction in all but four instances. In four patients critically ill, possibly death was hastened by the reaction. "In 80 per cent. of the cases in which definite improvement was shown, no reaction was manifest. Over half of the patients showing improvement required only one injection to obtain the desired results." Stoll concludes that transfusion of "normal" blood or serum is only exceptionally of value in influenzal pneumonia, and that the blood from individuals vaccinated against pneumoccus Types I, II, and III is no better in this type. The impression received from the few patients treated with convalescent serum was that it was less potent than convalescent pneumonia serum, but more so than "normal" serum. Transfusion of blood or serum from convalescent pneumonia patients is occasionally of value as late as the fifth day of the disease, and when used early within the first three days, most cases show distinct improvement. It seems to lower the mortality and shorten the course of the disease, and complications are fewer. It seems, therefore, to have definite value as a therapeutic agent.

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NEWS: Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to physicians. We shall be glad to know the name of the sender in every instance.

Editorials

Doctors are prone to procrastinate. There is probably no characteristic more universal than this when it is a matter of their personal welfare or personal affairs. This is demonstrated clearly AGAIN by the physicians who went into the army and who have failed to identify themselves with their local societies since their discharge. They either forget or PROCRASTINATE to a point where their own interests suffer.

Almost daily the Secretary of the Association is asked for the name and address of some member, or rather former member, by Insurance companies, the Bureau of War Risk Insurance, the Public Health Service, Vocational Boards, etc. These requests invariably are for information which would probably be of great help to the doctor in question, but the Secretary either has to guess or does not know unless that physician is a member, in good standing, of the Medical Association of Georgia.

Many of these organizations are seeking to make appointments in our state, and some of them require that the appointee be a member of the Association. Many of them prefer to appoint a physician who has been in the service, mainly because of his experience, but the mere fact that membership has not been re-established throws up the barrier to the appointment.

Therefore, let us impress upon our returned medical officers the importance of immediately communicating with the Secretary of his county society and ascertaining the exact status of his membership.

As soon as membership is established in the county society it is immediately reported to the Secretary of the state association and membership in the latter body is automatically obtained.

Only in this way can our Secretary know the members of the Association, and only in this way can he render them the service as above outlined.

Usually, the returned medical officer has so many matters of detail to occupy his time that a thing as important as this escapes his mind. The establishing of a new office, the purchase of a car, (possibly the arrangement for financial help), the big job of having nothing to do, yet a hundred things to worry about, is calculated to make one forget most anything. However, during the few weeks of re-adjustment when all these things combine to make the doctor's life "one grand sweet—?" one of these inquiries may come in which would possibly interest this particular doctor deeply.

See today about your membership!

MEDICAL EDUCATION.

There is glowing reward for the tireless efforts of our educational workers in the comparative statement issued by the Journal of the A. M. A. under the caption of "Medical Education Statistics for 1919" in the issue of August 16.

The comparison with 1910 shows a most remarkable improvement in medical education, while even that with 1918 is no less inspiring.

Of the 2,656 medical graduates in 1919, 1,180, or 44.4 per cent., were also graduates of colleges of liberal arts as compared with 38.4 per cent. in 1918 and only 15.3 per cent. in 1910 who held that evidence of higher preliminary qualifications. This shows a decided improvement in the qualifications of those who are to practice medicine.

There are 5 less colleges than in 1918, the total now being 85, consisting of 76 nonsectarian, 5 homeopathic, 1 eclectic, and 3 nondescript colleges. These 3 colleges consist of 2 semi-osteopathic and 1 nominally eclectic affair, two of which are outlawed in their own state—Missouri—and 1 is in Massachusetts, which has a feeble medical practice law. None of them, therefore, is subjected to rigid laws or regulations. One of them, the Kansas City College of Medicine and Surgery, exists only by the enjoyment of special privileges obtained through a sectarian licensing board in an adjoining state, the Eclectic Board of Arkansas.

There are other reasons why the young doctor will be better prepared to practice medicine than in the past, if teachers, and this applies to many men not actually connected with medical schools, profit from the experiences gained in the Army, where the experienced and inexperienced crossed paths daily and where the short-comings of certain systems of teaching were plainly made apparent.

Lieutenant-Colonel Nellis B. Foster, M. C. U. S. Army, of New York, wrote a most interesting article in a May number of the Journal of the A. M. A. calling attention particularly to the loose connection somewhere between graduation and, at least partial establishment, of medical officers observed while in the service.

His deductions were astounding, and clearly showed that many, altogether too many, physicians were necessarily practicing superficial medicine with practically no frame-work upon which to build the proper basis for study and thought.

Attention was called to a situation which was by no means uncommon. The graduate of the Class A School who came with a record of eighteen months to two years service in some of our best hospitals and who had probably been in private practice for several years.

Under test this man showed an astounding ignorance of many of the fundamental points in diagnosis, and in some instances did not even know of common pathological conditions.

The strong point in Colonel Foster's article is the direction he invites of general attention to the manner in which internes are instructed while taking their apprenticeship. The visiting staffs of hospitals are under indictment generally for the lack of interest manifested in the interne. He comes to the hospital usually by competitive examination and has a head full of theory, much of which has been crammed in for graduating and state board examinations. He knows only the theory of text-books and what practical knowledge he has been able to gain during the last year or two

in college, where clinical teaching has superceded didactic measures. Assuming this course to be perfect, or as near perfect as possible, one could not expect the green interne to know much about clinical diagnosis. He comes to the hospital just as he went to college for INSTRUCTION.

He naturally expects to work and work hard, doing numbers of what he considers unnecessary "jobs." But he is there at the call of the "visiting man" to do homage where homage is due. What then is the real duty of the visiting man? It is probable that many of them really do not realize what they owe the interne.

The mere "making of rounds" is not instructive. The prescribing of digitalis without taking the interne into his confidence as to why he is giving it requires a wonderfully brilliant interne to understand the premises. Possibly too many are prone to keep their diagnosis a secret, which leaves the interne to make his own conclusions from notes of a lecture received a year before and which may have been poor notes in the beginning.

The teaching done by visiting staffs of our numerous hospitals must have been lightly done or not done at all, or else the hospitals turned out quite a number of easily excitable internes who went into the Army.

The greatest chance at higher medical education is in the careful instruction received at the bedside and should not be considered as confined to the four walls of any institution.

The colleges are furnishing better men. They are furnishing men with high preliminary qualifications and it is the plain duty of every physician to become the teacher and helper of his younger confrere at every opportunity.

SYMPTOMS OF VISCERAL DISEASES. Frances Marion Pottenger, A. M., M. D., LL.D., F. A. C. P., Monrovia, Cal. C. V. Mosby Co., St. Louis. $4.00.

In the preface of this book Dr. Pottenger calls attention to the fact that a so-called "specialty," in the accepted sense of the term, cannot exist, because the human body is a unit and no organ can be understood except in its relationship to other organs.

The book is a study of visceral diseases, not from a standpoint of the disease process, but from the standpoint of the patient who has the disease. To quote the author, "There is a patient who has the disease, as well as the disease which has the patient."

The chapter on the causes of the variability of symptoms is quite instructive as well as interesting.

The book as a whole gives some very important as well as instructive matter as to the "whys and wherefores" of symptoms. It treats of the symptoms of every organ in the body and the nerve innervation of each organ. It shows the reader just where the symptoms should be, and are, located when a certain organ is diseased and the reason why they are located there.

While the subject is treated more or less from a neurological standpoint does not mean it should be read only by neurologists. —A. M. Dimmock.

COMEDY RELIEF.

This delightful satire, written by Roy Atwell and sung by him with great success in "Alone At Last" gives the modern view of the public toward germs and infections:

"Some Little Bug Will Get You Some Day."

In these days of indigestion
It is oftentimes a question
As to what to eat and what to leave alone;
For each microbe and bacillus
Has a different way to kill us,
And in time they always claim us for their own.
There are germs of every kind
In any food that you can find
In the market or upon the bill of fare.
Drinking water's just as risky
As the so-called deadly whiskey,
And it's often a mistake to breathe the air.

Some little bug is going to find you some day,
Some little bug will creep behind you some day,
Then he'll send for his bug friends
And all your earthy trouble ends;
Some little bug is going to find you some day.

Eating lobster cooked or plain
Is only flirting with ptomaine,
While an oyster sometimes has a lot to say.
But the clams we eat in chowder
Make the angels chant the louder,
For they know that we'll be with them right away.

Take a slice of nice fried onion
And you're fit for Dr. Munyon,
Apple dumplings kill you quicker than a train.
Chew a cheesy midnight "rabbit"
And a grave you'll soon inhabit—
Ah! to eat at all is such a foolish game.
Eating huckleberry pie
Is a pleasant way to die,
While sauerkraut brings on softening of the brain.
When you eat banana fritters
Every undertaker titters,
And the casket makers nearly go insane.

Some little bug is going to find you some day,
Some little bug will creep behind you some day,
Eating juicy sliced pineapple
Makes the sexton dust the chapel;
Some little bug is going to find you some day.

The inviting green cucumber
Gets most everybody's number,
While the green corn has a system all its own;
Though a radish seems nutritious
Its behavior is quite vicious,
And a doctor will be coming to your home.

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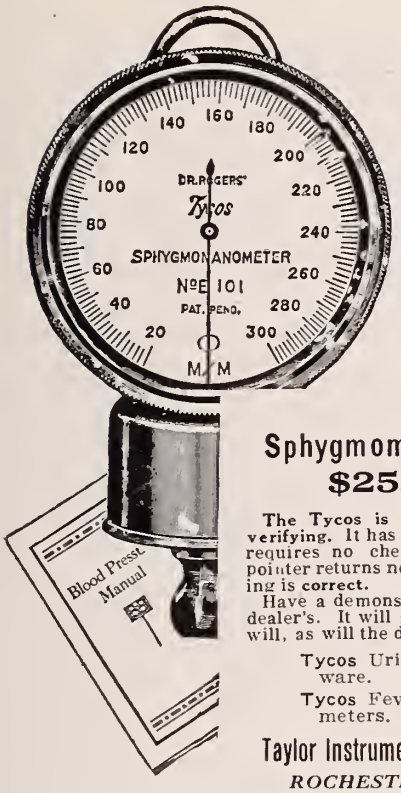
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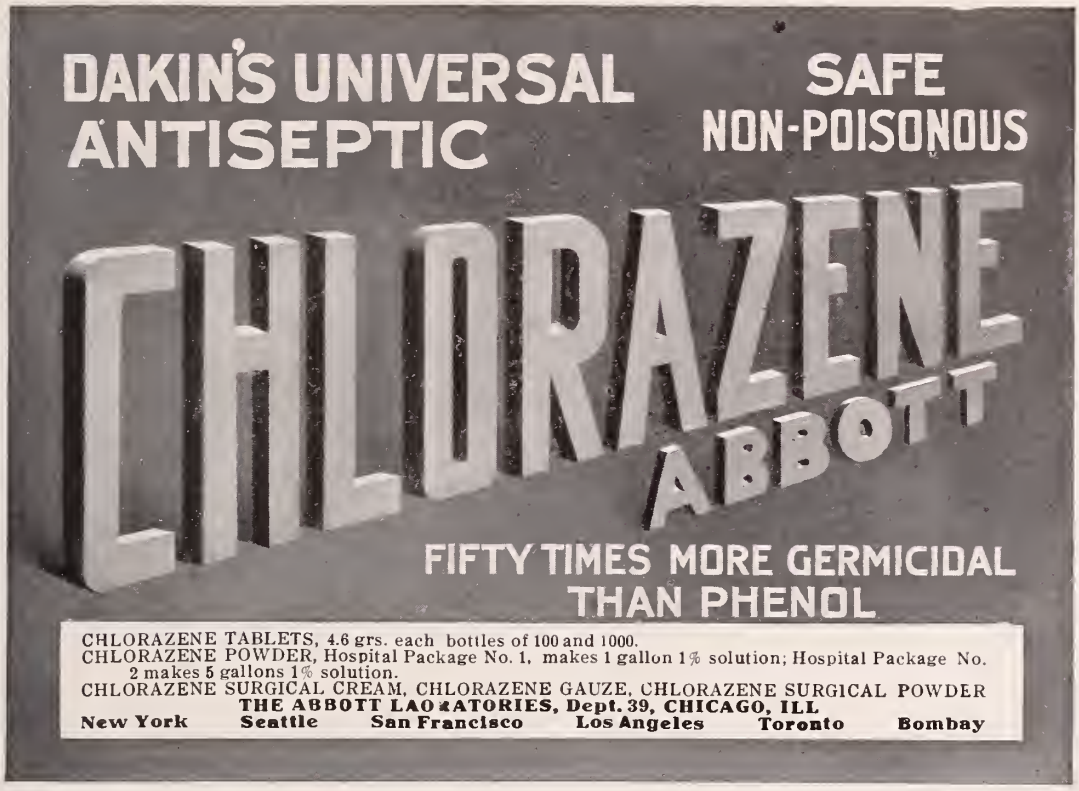
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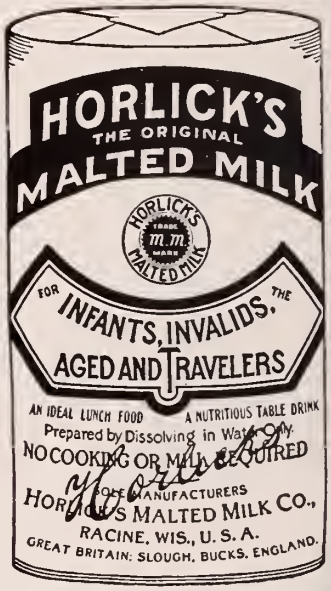
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ORIGINAL ARTICLES

DIAGNOSTIC SKEPTICISM IN NEUROLOGY.

By Hansell Crenshaw, M. D.

Atlanta, Ga.

Examination is a procedure separate and apart from diagnosis. Particularly applicable is this fact to neurology. Too often the neurologist enters upon the study of a case with the desire uppermost in his mind to reach an immediate diagnosis. Successful diagnosis is mediate—not immediate. One should postpone all thought of diagnosis until a complete, open-minded examination has been made. The diagnostician has been likened to a detective, following up clews; a better comparison, however, is to an analytical chemist following out a comprehensive scheme of analysis which will reveal each and every constituent in the material under investigation. The estimation of the pathological status of a patient, then, consists of two procedures: (1) Examination, and (2) interpretation. An examination properly considered is in the nature of a survey and should result in complete recorded data as a basis for the interpretation which is to follow.

Negative findings should be valued and recorded as fully as positive findings. Indeed, skepticism toward positive findings is commendable.

Most, though not all neurological symptoms may be simulated—consciously or unconsciously. For example, neurotic patients when tested for tremor may initate either the fine tremor of hyperthyroidism, the coarse occillations of Parkinson's disease, or the intention tremor so characteristic of diseminated sclerosis. Likewise, tendon reflexes may be exaggerated or inhibited at will. This is true also of Rombergism, coordination tests, sensory reactions, and tests of muscular power.

With even more suspicion, perhaps, should be viewed the positive findings involved in personal and family histories. Inherent duplicity in certain patients and temperamental characteristics in others cause them to over-state or conceal significant facts; and the suggestibility of many patients lead them unconsciously to affirmative answers to all questions. Hence the value of a skeptical mental posture on the part of the examining neurologist.

A considerable proportion of patients should not be diagnosticated at all, in the generally accepted sense; that is, they should not be classified. Instead they should be considered and treated as individual reactions.

What should be the scope of a neurological examination? Common sense and fairness to the patient are important factors in answering this question. Obviously a gunshot wound severing the anterior crural nerve, for example, constitutes a case not requiring a comprehensive examination, including a study of the spinal fluid, the visual fields, stereognostic sense and so on. Paralysis of the anterior femoral muscles and loss of sensation over the front of the thigh are sufficient findings. Yet, even in a case like this, a complete examination might reveal something else worth finding out.

My plan of examination seeks the following information:

1. Patient's name, address, age and occupation.

2. Patient's story of the present complaint, or a relative's story of it. (It is best to let the patient get his story "out of his system" early in the examination, and there should be no leading questions).

3. History of the patient's ill health, illnesses and injuries since birth. (Leading questions are here necessary. For example: Has the patient had syphillis, syncopal attacks, fracture of the skull, suppurating

ears, focal infections, infectious diseases, business strain, domestic trouble, etc.

4. Family history. (Mis-carriage of the mother are suggestive of syphilis—the cause of perhaps 50% of nervous and mental diseases, directly or indirectly. The progressive atrophies and dystrophies are family diseases, though seldom hereditary. Likewise, Friedriech's ataxia).

5. Physical condition, including:

(a) General appearance.

(b) Posture.

(c) Gait, if ambulatory.

(d) Shape and contour of head.

(e) Appearance of palate, teeth, tonsils, ears, eyes and naries. (Any stigmata of degeneration should be noted).

(f) Alignment of spine and condition of joints.

(g) Condition of heart and lungs.

(h) Condition of abdomen.

(i) Pulse.

(j) Blood pressure. Systolic, diastolic, pulse.

(k) Temperature.

6. Retinoscopic examination of eye-grounds, for possible signs of brain pressure or suggestive changes in the optic nerve heads.

7. Visual fields—a rich field of investigation much neglected.

8. Brain, including interrogation of the—

(a) Parietal lobes—interpretative organs of visual, aural and spacial impressions (test of stereognostic sense, etc.)

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9. Cranial nerves—1 to 12.

(1) Each nostril is tested separately with cologne and tincture of asafoetida.

(2) Visual fields and retinascopic examination.

(3, 4, and 6) Eye-movements following the examiner's finger. Also, pupillary reaction to light and accommodation.

(5) Sensation of face, tested while patient's eyes are closed. Test of tooth on centerior part of tongue. Contraction of masseters, felt and estimated. Also, jaw-jerk reflex.

(7) Facial muscles observed while patient shows teeth, closes eyes, wrinkles brow. (Some say this muscle is concerned in sense of teeth also).

(8) Hearing tested by watch or tuning-fork.

(9 Gag reflex. Test of taste. Ability to swallow.

(10) Pulse-rate. Blood pressure. History of vomiting.

(11) Strength in sterno-mastoids and trapezius.

(12) Ability to move the tongue—out, in, into right cheek and into left cheek.

10. Sensation over entire body, including:

(a) Light touch.

(b) Pain

(c) Temperature.

(d) Sense of position.

(e) Stereognostic sense.

11. Tests of muscular power, including hand grip, flexion and extension of arms and legs against opposing pull of examiner; and power to rise upon toes.

12. Co-ordination (Cerebellum):

(a) Finger-nose test.

(b) Heel-knee test.

(c) Effort to walk straight line with eyes open and with them closed.

(d) Romberg.

13. Reflexes.

(a) Deep tendon.

(b) Superficial.

(c) Babinski (I have never been able to elicit the Oppenhiem or Gordon reaction unless the Bakinski was present).

(e) Pupillary reaction to light and accommodation.

14. Wassermann of the blood. Also study of the spinal fluid if indicated. Blood-count and hemoglobin estimate and blood-culture if at all indicated.

15. Urinalysis.

The findings, negative as well as positive, obtained from a systematic investigation furnish data for interpretation. Surely no interpretation is better than a wrong one. There is no excuse for not making a painstaking, accurate, complete examination; but there is often merit in not making a diagnosis.

414 Hurt Building.

ASPIRATION OF THE POUCH OF DOUGLAS AS AN AID IN DIFFERENTIATING ATYPICAL CASES OF ECTOPIC PREGNANCY AND PYOSALPINX.

By
R. A. Bartholomew, A. B., M. D.,
Associate in Gynecology and Obstetrics
Emory University School of Medicine,
Atlanta, Ga.

It may be said of any particular disease entity that if the most typical symptoms and findings of that condition are present in a case, and bear the proper relation to each other as to location, sequence, degree, duration, etc., that the diagnosis can be readily made. Differential diagnosis, in such typical cases, may seem quite superfluous.

However, it is a matter of every-day experience that the so-called text-book cases are seldom encountered, and the correct diagnosis can be reached only after proper evaluation of the leading symptoms and signs, all of which may closely simulate those of some other condition.

These remarks apply with especial force to certain cases of ectopic pregnancy and pyosalpinx, in which the symptoms and signs, in atypical cases, resemble each other very closely, and in which a vaginal examination discloses a definite mass which, in the one case, consists of the tube, surrounded by old adherent clots and uid flblood, and in the other case, of a walled-off collection of pus. A consideration of the main symptoms and signs will show many points of similarity.

Previous History. If there is no evidence in the patient's history previous to the onset of the present trouble, of a pelvic infection, either gonorrheal or septic, resulting from infection following abortion or labor, the diagnosis is more likely to be ectopic, although it is true that pelvic infection particularly gonorrheal, predisposes to ectopic. In case these symptoms of previous pelvic infection are present but incomplete and atypical, it is correspondingly less possible to make a positive diagnosis between this condition and ectopic from the history.

Bleeding. It is the menstrual history which in a majority of the cases, presents the first clue or suggestion that the case may be ectopic. However, the missed menstruation with irregular more or less persistent bleeding coming on several days to several weeks later, may likewise occur in pyosalpinx. Just why this should occur is hard to understand, for it would naturally be supposed that with the increased pelvic congestion incident to inflammatory trouble, the period would not be delayed or missed.

Pain. The history of sudden acute pain localized in the right or left lower quadrant of the abdomen, with symptoms of shock or collapse due to sudden tubal rupture, is not infrequently obtained in cases of pelvic infection, although in the latter it is much more common for the pain to be widespread over the lower abdomen and have a more gradual onset. In both conditions it is common to have repeated exacerbations of the trouble which in the one case result from repeated small tubal ruptures and in the other case from flare-ups of the infection.

Fever. A normal or subnormal temperature a tthe time of the acute tubal rupture of severe degree is an exceedingly valuable aid in the diagnosis, if, by chance, the temperature is taken at this time or very soon after, but later on in case of repeated slight ruptures resulting in pelvic hematocele, it is common to note a moderate elevation of temperature perhaps as high as 100. A greater degree of temperature at the onset and following the pain is more in favor of pelvic infection, as is likewise the occurrence of a chill.

Blood Examination. The leucocytes, in the presence of free blood in the pelvic and abdominal cavity at the time of sudden severe rupture, will usually be found high, perhaps 25,000, with an increased proportion of polynuclears, but in the less acute cases with gradual accumulation of old blood in the pelvis, the leucocytes are only moderately increased to ten or fifteen thousand and with less increase in polynuclears. In case of pelvic infection and abscess formation the count is much higher as a rule. A low red count and hemoglobin with pallor and increased pulse rate are very significant and point to ectopic. If the result of the blood

examination is indefinite it only adds to the uncertainty of the diagnosis.

Evidences of Early Pregnancy. The symptoms and signs of an early pregnancy are not, as a rule, definite enough to be of much aid in the diagnosis, for a certain degree of nausea and urinary disturbance may likewise accompany pelvic infection. Increased size and change in consistency of the uterus and cervix are never very noticeable in ectopic, but secretion obtained from the breasts of a patient is of more value.

Presence of a Mass. In both conditions a fixed tender mass may be found to the right or left of the uterus, and it may be quite impossible to tell from touch alone, whether the content is blood or pus. The presence of pulsations, induration, certain degree of tenderness or bilateral involvement of the adnexa are variable and often conflicting features.

It will thus be seen from the brief consideration of symptoms and signs that ectopic pregnancy, particularly the variety in which there is a gradual accumulation of old blood in the pelvis, and pyosalpinx have many points in common, and in case the symptoms are somewhat atypical, the diagnosis is at times difficult to make.

It may be said, what is the need of knowing exactly which of the two conditions is present so long as it is recognized that the particular case needs to be operated upon?

The desirability of making a correct diagnosis is based upon several good reasons. If the mass in the pelvis consists of old blood and clots without infection or pus, there is no contraindication to removing it along with diseased parts by abdominal incision. However, if the mass is a collection of pus and inflammatory tissue, the logical procedure is to open it and drain it through the vagina. Such pus may be almost sterile and harmless, especially if gonorrheal, but in a certain proportion of cases notably those following infected abortion or labor, it contains virulent organisms, which if allowed to contaminate the peritoneal cavity, as in a laparotomy, might set up a fatal peritonitis. Statistics given in Kelly and Noble's Gynecology and Abdominal Surgery show that the removal of a pelvic abscess by abdominal operation is attended by a mortality of 27%, whereas with drainage by the vaginal route the mortality is only 2%. These organisms sometimes retain their virulence for long periods of time, even though producing no marked constitutional or local symptoms. Even though the invasion of the abdomen in such a case, may not terminate fatally the infection nevertheless may result in wound suppuration with long convalescence and possibility of a future weak scar or hernia. More important still is the fact that the operator may be unnecessarily radical in performing a laparotomy in such a condition and do an extensive removal of tubes ovaries or uterus, whereas if treated by vaginal drainage these structures sometimes recover to a remarkable extent, functionally as well as symptomatically. In such cases a second operation is sometimes unnecessary, but if necessary at some later date, the organisms will have become more attenuated and less capable of causing peritonitis and more conservative surgery may be done.

Therefore, any procedure which will aid in differentiating pus and blood in the pelvis, should be made use of as frequently as possible to better the prognosis in this class of cases. Such a procedure is aspiration of the Pouch of Douglas through the vaginal fornices, by means of an ordinary glass syringe and medium sized needle. This can be safely and easily done on account of the fact that when the tube distends with pus it falls posteriorly into the Pouch of Douglas and becomes adherent and walled off from the obdominal cavity. Since it lies in contact with the walls of the posterior and lateral fornices of the vagina it becomes very accessible to puncture with the needle and subsequent incision and drainage if pus be aspirated. In case of hematocele accompanying ectopic, the affected tube and old blood are similarly located and accessible.

Although many operators may be familiar with this means of diagnosis and make use of it, it is a surprising fact that with the exception of Kelly and Noble's Gynecology and Abdominal Surgery and an article by Henderson, the method receives little or no mention in the text-books or literature. Eden and Lockyer in a recent and complete

work in Gynecology state that colpotomy may be employed as a means of diagnosis and if, on opening the abdomen, a pelvic abscess is discovered, it is best to desist from further manipulations from above, but rather open the abscess by the vaginal route and prevent contamination of the general peritoneal cavity.

Why prolong the operation to the extent of doing a preliminary colpotomy, to say nothing of an unnecessary abdominal incision, to determine whether a pelvic mass contains pus or blood, when the choice of whether to go in from above or below can be made by a simple quick aspiration from below? If pus is withdrawn into the syringe, better immediate as well as ultimate results will follow a colpotomy and drainage, whereas if blood is withdrawn, an abdominal operation is indicated.

Technique. An ordinary inexpensive glass syringe with good suction and medium sized needle of about 16 gauge will be found entirely satisfactory. It is best to have a piece of short stiff rubber tubing to connect the needle and syringe so that the needle may be manipulated more easily and directed into the mass. The perineum should be depressed sufficiently to enable the operator to guide the needle by sight as well as by touch, although this is not absolutely necessary. The needle is pushed into the most prominent part of the mass, which will usually be very accessible in the posterior or lateral fornices of the vagina and suction made. It may be necessary to change the direction of the needle several times or reintroduce it in order to reach the pus or blood, but in the type of case under consideration a dry tap is rare.

In an abstract of Henderson's article in the Practical Medicine Series for 1918, found in the volume on Gynecology and Obstetrics, Dudley makes the following comment. "This procedure would be dangerous except in the hands of a decided expert, but a decided expert ordinarily would not need it." Similarly, Eden and Lockyer state, "In all cases of doubt an exploratory laparotomy should be practiced; the suggestion of puncturing the pouch of Douglas with a hollow needle in order to demonstrate the presence of blood is not one to be approved." The inference from both of these quotations is plain that the authors have never made use of the method themselves, and this fact alone, with all due respect to their ability and judgment, weakens the criticism. I have personally seen and used this method in numerous cases, with not the slightest indication of harm to the patient. The intestines, as a rule, are well out of reach of the needle, but if, by chance, a needle of such size should puncture the intestine no harm would result, due to the almost immediate closure of such a minute opening and the protection of surrounding adhesions. Furthermore, in the type of case under consideration, the diagnosis is often obscure as is admitted by Crossen and Eden and Lockyer in their discussion of this subject and it is not altogether true that "a decided expert would not ordinarily need it."

The following case reports taken from the records of the Gynecologic Clinic, University Hospital, Ann Arbor, Mich., illustrates some of the difficulties in the diagnosis and the aid to be derived from the use of this method.

Case No. 9199. Age 24. Married at 20, up to which time the menses were regular, every 28 days, 3 to 4 days flow, 2 to 3 pads per day, no pain. Five months after marriage, aborted at the fifth month of pregnancy, apparently due to over-exertion and after this her periods were very irregular, the interval varying from 3 to 7 weeks, 3 to 4 days flow, and much more profuse, requiring 6 to 8 pads a day. She had a second miscarriage, induced, at the third month, 9 months after the first one, in bed 10 days, no chills or fever. Following these abortions the patient had a moderate whitish discharge, which recently became more profuse continual and yellowish. The periods were fairly regular, the last normal one occurring September 24th to 27th, 1917, after which there was an entire absence of flow for the next 8 weeks until November 21st, when bleeding commenced. About the same time, the patient was taken with a severe pain low down in the right side, which was somewhat relieved by the application of an ice-bag. The flow continued quite profuse

from November 21st to December 27th, about which time patient stated she had fever to 105 which her doctor told her was due to pneumonia. Hypodermics of morphine were required for the pain in the right side. Pain and bleeding continued intermittently up to time of admission to the hospital March 11, 1918. On the following day examination under ether showed the uterus forward, displaced to the left, and somewhat enlarged but of firm consistency. In the region of the right tube and ovary was a mass about the size of a grape-fruit with suggestion of fluctation. A needle was inserted into the mass and pus aspirated into the syringe. Colpotomy was then done and a large amount of pus evacuated, leaving in a tube for drainage. The patient made a good recovery and was discharged two weeks later at which time examination showed the pelvic organs to be more movable, much less tender, no mass present, and the colpotomy wound nearly closed with very little further drainage.

Case 9052. Menses always regular and normal until present trouble. Married at 34, one child living, born at full term, 7 months ago, no other pregnancies. Two months ago, or 5 months following confinement, she began to have irregular, but persistent bleeding, accompanied by pain in the left lower abdomen, which became much more severe one month ago. She has recently noticed a lump low down near the midline and some burning on urination. Under ether the uterus was found to be in the midline and nearly normal size. On the left side and extending slightly to the right of the midline and nearly a hands' breadth above the symphysis was a soft fluctuating mass adherent to the side of the uterus. A needle was inserted and dark fluid blood withdrawn into the syringe. The abdomen was then opened and the left tube found to be the site of a ruptured ectopic gestation with considerable old blood clot and fluid blood. The left tube and ovary and the clots were removed and the patient made a normal convalescence.

Conclusions.

1. It is not always possible to make a positive differential diagnosis between certain cases of ectopic pregnancy and pyosalpinx by the history and examination alone.

2. A definite diagnosis is desirable in order that a posterior colpotomy may be performed in case of pyosalpinx and a laparotomy in case of hematocele.

3. Aspiration of a mass in the Pouch of Douglas through the lateral or posterior vaginal fornices by means of a needle and syringe offers a rapid, safe and almost invariably sure way of determining the nature of the contents of such a mass and indicating the proper route of operation.

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746 Peachtree St.

CARCINOMA OF THE BREAST PLUS SURGICAL AND X-RAY TREATMENT.

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When the public learns to consult its physician at the first sign of an insignificant appearing lump in the breast there will be not much necessity for this type of paper. That there is need for much educational propaganda along that line is readily seen when we think of the low percentage of cures of carcinoma of the breast after five years even with the most radical surgical means used. Competent surgeons agree that if an operation could be performed before a diagnosis can be made clinically and without a microscope, eighty per cent. of cases could be cured.

Buchanan was able to show that by complete radical surgery of a large number of consecutive cases he had 38% of cures after

htree years, whereas after five years his cures had reduced to 23½%. This, as he says, shows the necessity of allowing at least five years to elapse before claiming a cure. Several authors from whom I have read, claim that by removal of the entire mammary gland both the pectoralis major and minor muscles and thoroughly cleaning out the axillary glands they can show 39% cures. I am unable to say whether that is three or five years cures, though I rather think it is the former.

However, as McCarthy says, much can be done to alleviate these sufferers both mentally and physically. A cheerful, hopeful attitude often does wonders to relieve their anxiety while surgery can remove the original growth and often a sloughing, bleeding, ulcerous condition often very painful and sometimes embarrassing because of its disagreeable odor. When that has been done the patient may often be comparatively easy until he dies from some nearly painless internal metastasis, so that even if the percentage of cures were much less, surgery would still be indicated.

In spite of McCarthy's remarks we find in Deaver and McFarland's "The Breast, Its Anomalies, Its Diseases and their Treatment," that Deaver questions whether as much palliation is received from operative as from non-operative methods, and expresses his general dissatisfaction with palliative operations in the treatment of carcinoma of the breast, since in certain cases the disease has been excited to greater activity by an incomplete operation and the life of the patient shortened. He also quotes Bloodgood's statement that, "Incomplete operation hastens death," and he states that since 1897 extraordinary advances have been made in roentgen-therapy that remove most of the indications for the ultra-radical operative procedures, which have practically no curative value and a primary mortality of at least 25%.

Since Deavers' work is a resume of the entire medical literature and because it includes a valuable chapter on roentgen-therapy by Pfahler it should receive careful consideration.

When we consider a disease with a mortality of 76½% after five years even when the most thorough surgical measures have been used we must necessarily wonder if there are no adjuncts that may be used to help save some of these unfortunate individuals. With our knowledge of X-Rays and their effect upon embryonic tissues we naturally turn first to the roentgenologist for help. It has been proven that roentgen rays decrease the vitality of cancer cells and completely destroy some types of them Furthermore complete statistics have been kept by many men devoting their energies along this line and they have proven that they can and do cut the mortality down from 76½% to 38%. In other words from 25% to 50% of those who previously died from cancer of the breast or its metastases even after the best surgical measures had been used are now cured by the addition of deep roentgen-therapy to surgery. These figures are based upon the usual five-year limit and of course may and probably shall have to be changed when a longer time limit has been taken as a standard.

It is advised by some roentgenologists that a complete series of treatments be given the patient according to the recognized standard deep roentgen technic, as soon as the diagnosis of carcinoma of the breast has been made. This is to be followed within a few days by radical operation and sometimes fulguration of the open wound, the latter only in selected cases that especially require it. The X-Rays, by lowering the vitality of the cancer cells and by constricting the blood and lymphatic vessels, have a tendency to prevent metastases. It has been proven that this raying previous to operation produces no deleterious effects, the wounds heal as rapidly and as firmly as those that have not been rayed. As Boggs says, and I fully agree with him, "If the roentgen rays did nothing more than produce a sclerosis of the lymphatics and a reduction of the size of the vessels the treatment would still be indicated, as it would always check the progress of the disease and in some cases effect a cure."

By such pre-operative radiation and the application of sufficient post operative roentgen-theraphy we can prevent from 25% to

50% of recurrences even in early cases because the malignant cells will be destroyed at both a greater distance and depth from the original growth. As Boggs says, "It is only a question of time until the profession will realize that post-operative roentgen treatment is just as necessary as is asepsis before and during the operation," and I would like to add that pre-operative treatment is almost as important because of the sclerosing effect it has on the lymphatics, lessening the malignancy of the cancer by changing its nature to the more scirrhus type and as has been suggested rendering some of the patients immune to the growth of carcinoma for some time after such treatment. Whether there is any such real immunity or that the retardation of the growth of the cancer and the improvement in the general condition of the patient are due to histological changes in the tissues no one can prove in the present state of our knowledge. However, the fact remains that the tumor changes to a less malignant type and there is less likelihood of metastasis, these facts have been proven.

To make the roentgen treatment worth while it is absolutely essential that the roentgen-therapeutist have an accurate knowledge of the lymphatics that drain the breast. The two most serious defects usually met with in this work are first, insufficient dosage to the deep tissues because not enough ports of entry were used in cross-firing; and second, the fact that many chains of lymphatics draining the breast have not been rayed. To expose the incision, axilla and supraclavicular regions is not nearly sufficient, but we must also treat the supra-scapular, para vertebral, lateral intercostal and supraxyphoid regions of the chest. Because autopsy has often shown metastases in the liver, the opposite breast and the inguinal glands these too should be well rayed.

Many roentgenologists have adopted the following as a standard dose, i. e. the amount of X-Rays that each area of skin will tolerate safely; using a Coolidge Tube and a modern interrupterless transformer, skin-focal distance of eight inches, rays filtered through four millimeters of aluminum and one thickness of sole-leather with a nine-inch parallel spark-gap, twenty-five milliampere minutes may be given. Usually this will amount to 20 x Koenig (Gause modified Kienboch scale.) This, with slight modification, is the dose recommended by Boggs and I find it works well. Each area previously mentioned should receive this full dose which constitutes as a whole a series of treatments. The series should be repeated at intervals of four weeks or sometimes longer, depending upon the reaction produced, until at least four complete series of treatments have been given. The supraclavicular chain of glands should receive more treatment because this chain is often involved and the surgeon seldom advises operation upon it since he has learned that it is really inoperable when involved.

With the above mentioned combined surgical and roentgen treatment many more cases of carcinoma of the breast may be saved than are now cured by surgery alone. I do not think that roentgen-therapy should in any case supercede surgery in cancer of the breast but I do believe and my belief is substantiated by the statistics of many other men, that roentgen-therapy is a very valuable adjunct to surgery in the treatment of carcinoma of the breast and it should always be used when available by a competent roentgen-therapeutist.

17 Gordon St., West.

CHILD WELFARE A COMMUNITY RESPONSIBILITY.

By W. L. Funkhouser, M. D.

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We were once babies. Let us not forget this. We are now grown men controlling the destiny of the world, but no more a citizen of the commonwealth than when at our mothers' breast. As a survival of the fittest against odds which we could not now withstand, we are here to consider our responsibility to the citizen of tomorrow. This present generation after all is but the trustee of the next generation.

The war has made us take stock of our

assets. We found that we had been wasteful with every thing, even negligent of our greatest national asset, the baby. No inventory was made of the women, but of the men the nation was shocked to learn that one-third were unfit, largely from defects which, if they had been recognized early could have been prevented. The high infant mortality has startled the world. Is it God's plan to have hundreds of thousands of women to go through the peril of childbirth, the mental anguish of sorrow at the loss of her babe? We now know that 100,000 a year can be saved by concerted effort.

What was the determining factor in the great war? Man power—fit man power. The best army therefore consists of the largest number of the best fit men. In times of peace does not this also hold true? By the term fit we mean mentally and physically fit. The best state will be the one having the most men and women composed of the mental power and foresight to conceive of big things and put them through with 100% efficiency—men with the mental foresight and physical courage to plan and accomplish big things—knowing no obstacle to the accomplishment of their aim. All admire this quality in any citizen, any community, any state.

What does it cost? Money, yes, some; work, yes, much of it. Is anyhing worth having ever obtained without work? (Edison once said, "a genius is 98% perspiration and 2% inspiration.")

Child conservation, child welfare, is our job, our community's and our state's. Prevention is a community responsibility of which the doctors must be the consultant and ardent supporter. This effort at state child welfare is in operation elsewhere, and sooner or later will be in operation in this state, and it is up to us to decide where we shall stand.

The women are alive to any movement which has as its goal the saving of her baby. She will sooner or later force laws for their protection. Is not her baby just as much as ours? We shudder at the horror of the Huns' treatment of the young. But gentlemen there is very little difference between the Huns active murder and our passive neglect. I wish that I could make you feel that if we disregard our responsibility or neglect our duty to do all in our power to reduce the infant mortality, protect, guide and safeguard the child and prevent or correct beginning defects so that there will be no defects carried to adult life or handed down to posterity, that we are at heart no better than the Hun.

Several states have already put into operation plans for child welfare work. It is not perfect, obstacles have developed which at places seemed unsurmountable, factors of all description, hinderances of all kind have arisen, but a start has been made—time, patience, perseverance, diplomacy and brotherly love for one great aim has put into operation a movement that will become worth while soner or later. The time for efficiency is "NOW," let this be the motto of our child welfare work.

Massachusetts appointed a committee composed of two Pediatricians, one obstitrician, one public health nurse, two physicians interested in problems of delinquency and feeble mindedness, director of civilian relief of Red Cross and a member of the Woman's Department of Council of National Defence. This was an advisory committee and worked with the State Health Department. Two nurses were selected for the survey and the handling of this work. The secret of success was in the selection of these women. They go to each community who appeals to the State Health Department for them. The nurse makes a detail study of the situation and finds out the forces at work on different lines having the same purpose in view. After a conference with all concerned, plans are made to correllate all forces, take out all friction and cross purposes. Present community needs gone into, the expenses itemized and the means of raising the funds agreed on and completed.

A campaign for child welfare is incidentally one of education, concentrating special efforts on the mother for she is the natural custodian of her child. She must be educated in the care and feeding, she with the community as a whole, driving home the fact that high infant mortality is unnecessary, in fact a disgrace and her duty to

know the truth and study the needs for the reduction of the mortality in her community. The requirements for one place is not the same for another. There is only one beacon light reached no matter by what means, that being the improvement and perfecting all measures having as its aim the reduction of infant mortality, the training of the normal child, the early detection and correction of defects and the adoption of all means and measures having as its aim the developing of men and women, not fit to fight as the slogan of a year ago, but fit to live.

In one place it may be school inspection, in other children's clinics, milk stations, mothers' conference, distribution of literature and demonstrations as to their feeding, bathing, etc. In another only a district nurse. It is not the purpose to treat cases but to stimulate community interest in their own opportunities. The state assumes that when you apply for a survey you want advise and assistance. Exhibits are loaned, lectures furnished, encouragement offered for each locality to work out its own needs.

Having discussed this with the Secretary of our State Board of Health, I know he is soon to place the matter before us and the public. In order that we may ourselves know what is in store for us to appreciate our responsibility and above all, our power for good, is the explanation I make for this paper before you today.

Frequently a good way to kill a good enterprise is indifference. If we can not support it, let us fight it. Before fighting we ought at least to give a fair hearing to those who are endeavoring to raise the standard of our future race. If it is feasible, talk it, work it, support your health officer, he will be appealing to the medical societies to hold up his arms. Reap the reward from posterity, well done good and faithful servant

"What does the baby say to you,
You who pay no heed?
He begs for the right of living with you.
Begs for the help of a hand from you—
What he begs is but his meed.
Will the Hand and the Help Be Ready
from You,
Serving the Baby's need."

SURGERY IN A BASE HOSPITAL IN FRANCE.

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Base Hospital 43, organized by the Medical School of Emory University, and known as the "Emory Unit," was located in Blois, France, an ancient and historic city of 30,000 people, situated on the banks of the Loire, about seventy-five miles southwest of Paris. Of the 9,000 patients treated during the existence of the hospital, from July, 1918, to January, 1919, fifty per cent. were surgical cases, and 4,000 had war wounds. Five hundred of these reached us within 24 to 48 hours after injury. The remainder arrived from several days to two or three weeks after injury, and had already been operated upon at some Evacuation Hospital. The bed capacity of the hospital increased from 1,500 at the beginning to 2,400 at the close.

The general condition of ninety per cent. of the wounded reaching us was excellent. Two or three convoys were not in such good shape, due to delays in transportation. All wounds were examined and dressed as soon as practicable after the patients were made comfortable. Wounds of any considerable size, which were receiving any other treatment than the Carrel-Dakin, usually were found to be in bad condition. If the Carrel-Dakin treatment had not been properly carried out on the hospital train, as it was supposed to be, these wounds also were in bad condition, being soaked in pus. Every hospital train was furnished with a crew whose business it was to keep up the application of Dakin's solution regularly en route. The other kinds of dressings seen were dry gauze, moist bichloride gauze, and "bipp." We believe that dichloramine-T would have been the next best solution to Dakin's, but very little dichloramine was to be obtained in France.

Fractures arrived well splinted. The Thomas splint earned a high reputation as an efficient and comfortable apparatus, both in the initial and later treatment of fractures. Other splints used with satisfaction

were Jones' humerus extension, Jones' cock-up splint, some form of aeroplane splint for fractures in the upper third of the humerus, and Cabot's posterior splint for fractures below the knee without displacement.

Soon after our hospital opened an order was sent through the A. E. F. taking fractures from the general surgeon and transferring them to the orthopedist. This order also covered all wounds which were liable to result in deformity, which included injuries of peripheral nerves and extensive destruction of muscle tissue. In our hospital the responsibility for these cases, which formed a large percentage of all war-wounds, fell upon Major F. G. Hodgson, who acquitted himself with great credit.

To enumerate a few of the lessons strongly emphasized in the treatment of bone, muscle and nerve injury, the damaged parts must be kept at rest continuously by relaxation. In wounds of the musculo-spiral nerve, exceedingly common in compound fractures of the shaft of the humerus, and in wounds of the extensor muscles of the forearm, the dorsal flxed position of the wrist must be maintained. So, in injuries of the sciatic or external popliteal nerve, or in wounds of the anterior muscles of the leg, the foot must be kept at a right angle to the leg. These are simple things, but often overlooked in a rush of work. Whatever apparatus is used in treating fractures of the shaft of the femur must keep up the anterior bowing of the bone.

The use of the Carrel-Dakin technique in the treatment of infected wounds has become so well established that commendation of it seems almost superfluous. We early adopted it as the standard treatment, and as the results with it so far excelled any other treatment of such wounds, we never changed. The solution must be properly made, and the details of its application carried out minutely. In order to obtain characteristic results in the prescribed time, a thorough sebridement of the wound should have preceded the institution of the treatment. Such debridement not only applies to the soft tissues, but to bone as well. While in treating compound, comminuted gunshot fractures in civil practice, it has not been our custom to remove all particles of loose bone, such should be the rule in handling the gun-shot fractures of war, especially in the presence of the streptococcus hemolyticus. Failure to remove all damaged bone, and too great haste in closing wounds in which the bone is involved, have been factors in the etiology of the large number of cases of chronic osteomyelitis now seen in the general hospitals of the army.

Our experience with tetanus was gratifying. We had only one case, due to an accidental wound, and not to a war wound. The bacillus of tetanus flourishes in the richly manured soil of France, along with the gas bacillus and other anerobes, and had it not been with the thoroughness with which propholactic doses of the antitoxin were used, the mortality from tetanus would have been enormous. Every wounded American received the prophylactic dose of 1,500 units as quickly as the first aid worker could reach him. A second dose was given this soldier seven lays later, and if his wound was operated upon after this time, he received a dose at every operation. Or, if a man who was wounded in battle had a rectal operation during his stay in France, he also must receive a prophylactic dose of tetanus antitoxin.

It seemed strange to see so many soldiers come in with a convoy of wounded from the front complaining of hemorrhoids. "Trench piles" they were called, and the reason given for their origin was irregular habits in the trenches, and the difficulty of being able to attend to the bowels at the proper time.

Of the one thousand operations performed at our hospital the most common were debridement and secondary suture. At our distance from the front of 150 miles, we had no opportunity to do primary closures, within six hours after injury, but a few delayed primary closures were done in small wounds with successful results. The operation of debridement saved many lives and limbs in the great war, and shortened the hospital days of thousands of soldiers. In this procedure a practical knowledge of anatomy was of the utmost importance. One well-known surgical consultant remarked,

after witnessing the results of many debridements, that medical officers, in preparing for the service, would have been aided materially in their work by a review of practical surgical anatomy. The first object of a debridement is to save life, and to be sure of this, important structures often must be sacrificed. Apparently, however, in some cases the sacrifice was due to ignorance on carelessness. The skin seemed to have been needlessly removed over too large an area in some cases received by us. As muscle is the principal tissue to be attacked by the gas bacillus, it often was found safest to excise a muscle entirely rather than to cut away a large part of it.

In doing secondary closures we learned early that the only safe guide as to when the operation should be performed was the bacteriological report. Clinical appearance of wounds was apt to be deceptive. A perfectly healthy looking wound might harbor the most virulent streptococci. In this connection the paper of Captains A. H. Bunce and Louis Berlin and Lieutenant C. E. Lawrence, of our laboratory, is interesting and instructive. (Journal A. M. A., March 15, 1919). Their most important conclusion is that the bacterial culture, and not the bacterial count, should be depended upon to tell us when it is proper to attempt to close a wound. A wound containing many harmless saprophytes might be closed with assurance of success, whereas any wound showing a positive culture of the streptococcus hemolyticus should not be closed.

The streptococcus hemolyticus is decidedly the greatest foe of the successful treatment of war wounds. Dakin's solution finally will conquer it, but in a much longer time than that required for any other bacterium. We found it the best policy to wait at least two weeks after receiving a negative report of the presence of this organism before suturing the wound. Often it would reappear many days after a negative report had been given. We used no sera to combat infection from this germ. Our wounds infected with gas bacilli cleared up much more promptly. We did not have sufficient experience with any serum for this condition to make our conclusions of value or of interest.

The smaller wounds were closed under local anesthesia. In the larger ones ether was used. We were never able to obtain a gas and oxygen apparatus for use in our hospital. However, no difficulties of any kind were encountered with ether anesthesia. There were no fatalities and no complications. In the beginning wounds were closed with drainage, but later we learned that the best results followed wounds closed without drainage. Sixty-five per cent. of closures were perfectly successful, 25% were partially so, and 10% were failures. Seventy-five per cent. of all wounds not closed with perfect success had been injected with the streptocuccus hemolyticus.

The most common foreign bodies removed were shell fragments; next came machine gun bullets, and then rifle and pistol bullets. No shrapnel balls were found. These missiles were accurately located by Major J. S. Derr. The rule was to remove every foreign body of appreciable size, not so much to get it out as to clean out the bits of clothing and other debris which it invariably had carried with it.

With hemorrhage and shock, at our remote distance from the front, we had but little experience. A few cases of secondary hemorrhage were treated by ligation. Three cases of traumatic aneurism, one each of the deep epigastric, radial and popliteal arteries, were treated by excision, and cured. Blood transfusion was performed by Lieutenant J. A. McAllister, by the direct artery to vein method. Cases of hemorrhage so treated were benefitted to a marked degree. When the operation was done for sepsis, the improvement was only slight. Fifty amputations were performed, more than half being for gas infection. It is remarkable that thirty-five of these amputations took place during one night, in a fourteen-hour service, and not one case died. Two double leg amputations were done for trench-foot. Flaps were made and kept open. The guillotine method was not followed, and from the results we saw in cases

where it had been done, we did not approve of it.

Our brain cases were so few that we learned nothing from them not already seen in civil surgery. Not a single case of gunshot wound of the abdominal cavity reached us. The mortality in this class of cases at the front was extremely high. Penetrating wounds of the chest proved to be one of the most interesting kind of injury. The subsequent empyema was fatal in half the cases, the streptococcus being the offending organism. Machine gun bullets were removed from the lungs or pleura in four cases with complete recovery of the patients. Major Derr extracted bullets from the pleural cavity, in two cases, under the horoscopes.

The usual amount of civil surgery was done in the hospital, including 75 operations for appendicitis, and 50 for various forms of hernia. The total number of deaths among our 9,000 patients was 92, one per cent. Of these deaths 16 were cases operated upon by us. There was one death each following an arm amputation, complicated by accidental tetanus; infected knee-joint; subtemporal decompression for fracture of the skull; suprapubic cystotomy for rupture of the urethra following an automobile accident; laparotomy for appendicitis complicated by streptococcus peritonitis; hemorrhage following chlolecystectomy; chlolecystostomy for suppurating gall-bladder. There were two deaths following trephining for brain abscess, and seven deaths in sixteen operations for empyema. Three of the empyema cases resulted from traumatism, and were complicated by other serious wounds; four of the cases were sequels of pneumonia. Six of the seven patients who died had streptococcus infection, and one had the pneumococcus.

Altogether, the experience of Base Hospital 43 in France was pleasant and profitable to us, and we trust to our patients, as well. Ninety per cent. of our officers, nurses and enlisted men registered from the State of Georgia, and I wish to express to them our appreciation for their faithful and efficient work. The greater part of the surgical service fell upon those officers previously mentioned, and upon Captain W. E. Pearson, Major C. E. Dowman, Captain J. W. Roberts and Lieutenants J. R. and F. M. Barfield and E. H. Green. No praise is too high for the skillful, conscientious labors of these gentlemen.

Above all, I desire to pay a tribute to our patients, the American soldiers. The cheerfulness and fortitude they showed in the hospital was no les marvelous than the heroism they displayed at Chateau Thierry, St. Mihiel or in the sanguinous Argonne. No German machine guns could ever conquer such a spirit. The world must now know that Americans can fight, and Americans will win. To be on foreign soil and see these boys make light of permanently disabling wounds thrilled us to feel that we were privileged to be there to do what we could to help them. But often the regret was keen in our weakness that we could do no more. But there we learned as we never realized before that to be an American is the greatest privilege of all. May the dauntless spirit of the American doughboy, the victor of the Great War, be an ever present inspiration to us all!

BOOK REVIEWS

PLASTIC SURGERY: ITS PRINCIPLES AND PRACTICE.

By John Staige Davis, M. D., Instructor in Clinical Surgery, Johns Hopkins University. P. Blakiston's Son & Co.

Plastic surgery is a branch of the subject not overly popular with the general surgeon. The reasons for this are the difficulty of the work, and the unsatisfactory results which are often obtained. It is generally admitted that plastic surgery is the highest expression of the art. Only the most painstaking labor will bring success. The "aseptic conscience" must never go to sleep. The greatest refinements in technic and the skillful handling of instruments and tissues are requisite for success. In no other department of operative surgery is it as necessary to adhere to all the fundamental principles of surgery.

Despite the average surgeon's aversion for the subject, he is forced to consider plastic features in his work almost daily. It is well then that he keep abreast of the times in the development of surgery of this class. We learn that plastic surgery is of ancient origin, and some of the principles first employed still hold good. Dr. Davis has brought the matter up to date in his splendid book. His achievements in his chosen specialty have long been favorably known throughout the country, and the profession is fortunate in having the results of his unusual experience given in permanent form. No surgeon should be without the volume, no matter what line he is following. The subject is covered thoroughly and clearly, and the illustrations are excellent and the most numerous of any book of the same size we have seen. In 719 pages there are 864 illustrations containing 1,637 figures. The extensive bibliography is another valuable feature, and signifies the care with which the book was prepared. We venture to predict that it will be a long time before the equal of this work, on such a subject, comes from the press. Boland.

ROENTGENOTHERAPY.

By Albert Franklin Tyler, B. Sc. M. D., Omaha, Neb. Published by C. V. Mosby Company.

The text of this book is written in simple terms, and includes chapters on apparatus, superficial therapy, deep therapy, and report of cases, with cuts.

The chapter on apparatus and equipment describes the type of machines used formerly in Roentgenotherapy and states the advantages of the modern interrupterless form of X-Ray transformer. The advantage of the comparatively recent coolidge tube, which has been the most important article of equipment added to the X-Ray armanentarium in recent years, are also mentioned in this chapter.

The chapter written on Superficial Therapy takes up the treatment of the following diseases: Eczema, Psoriasis, Tuberculosis of Glands, Lupus Vulgaris, Lupus Erithematosus, Acne Vulgaris, Ringworm, Papilloma, Prurigo, Lichen Planus, Folliculitis Barbae, Hyperidrosis, Epithelioma and Leukoplakia, giving definitely the filtration, current, voltage, skin target distance, time of exposure and the blocking of surface to be treated.

The chapter written on Deep Therapy deals with the Roentgen treatment of the following diseases: Keloids, Hyperthyroidism, Uterine Fibroids, Uterine Hemorrhage, without demonstrable pathology, Hodgkins Disease, Spleno myelogenous Leukemia, Splenomegaly, Sarcoma, Epithelioma and Carcinoma. This chapter also mentions filters, current, voltage, time, skin-target distance and other points of detail to be followed in this form of therapy.

The chapter on Report of Cases, which is illustrated with photographs, shows some very interesting cases and the results of Roentgen treatment.

I consider this bok to be of material value as a part of the library of those who are using the Roentgen Ray as a therapeutic agent.

Landham.

NEW AND NON-OFFICIAL REMEDIES.

During August the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Non-official Remedies:

Calco Chemical Co.:

Cinchophen-Calco.

Geck Laboratory:

Culture-Lac.

Eli Lilly and Co.:

Tetanus Antitoxin-Lilly.

Fred I. Lackenbach:

B. Coli Bacterin (Spec. Bact. Vac. No. 12.)

Gonococcus Bacterin (Spec. Bact. Vac. No. 9.)

Staph-Acne Bacterin (Spec. Bact. Bac. No. 6.)

Whooping Cough Bacterin (Spec. Bact. Vac. No. 14.)

Staphylococcus Bacterin (Spec. Bact. Vac. No. 1.)

Streptococcus Bacterin (Spec. Bact. Vac. No. 10.)

Typhoid Bacterin (Spec. Bact. Vac. No. 17.)

Typhoid-Paratyphoid Bacterin (Spec. Bact. Vac. No. 13.)

Barbital Sodium-Abbott.—A brand of barbital sodium which complies with the New and Non-official Remedies standards. Barbital sodium is the soluble sodium salt of barbital (veronal). Barbital sodium was first introduced as veronal sodium and medinal. For a discussion of the actions, uses and dosage of barbital sodium see New and Non-official Remedies, 1919, p. 83. The Abbott Laboratories, Chicago.

Ovarian Substance - Hollister-Wilson.—The entire fresh ovary (including the corpora lutea) of the hog, cleaned, freed from fat, dried and powdered. It contains no diluent or preservative. For a discussion of the actions and uses of ovary preparations, see New and Non-official Remedies, 1919, p. 202. The dose is from 0.06 to 0.2 Gm. (1 to 3 grains). The Hollister-Wilson Laboratories, Chicago.

Desiccated Corpus Luteum-Hollister-Wilson.—The fresh substance from the corpora lutea of the hog, dried, freed from fat and powdered. It contains no diluent or preservative. For a discussion of ovary preparations, see New and Non-official Remedies, 1919, p. 202. The dose is from 0.03 to 0.12 Gm. (½ to 2 grains). Hollister-Wilson Laboratories, Chicago.

Sodium Dioxide, Dental—R. and H.—A brand of sodium peroxide complying with the New and Non-official Remedies standards, but containing at least 90 per cent. of sodium peroxide, and iron not to exceed 0.006 per cent. For a discussion of the actions and uses of sodium peroxide, see New and Non-official Remedies, 1919, p. 216. Roessler and Hasslacher Chemical Co., New York (Jour. A.M.A., Aug. 23, 1919, p. 607.)

B. Coli Bacterin (Special Bacterial Vaccine No. 12).—A coon bacillus vaccine (see New and Non-officiol Remedies, 1919, p. 283), marketed in 10-Cc. vials, each cubic centimeter containing 5,000 million killed Bacillus coli. Fred I. Lackenbach, San Francisco.

Gonococcus Bacterin (Special Bacterial Vaccine No. 9).—A gonococcus vaccine (see New and Non-officiol Remedies, 1919, p. 285), marketed in 10-Cc. vials, each cubic centimeter containing 1,000 million killed Gonococcus. Fred I. Lackenbach, San Francisco.

Staph-Acne Bacterin (Special Bacterial Vaccine No. 6). A mixed bacterial vaccine (see New and Non-official Remedies, 1919, p. 296), marketed in 10-Cc. vials, each cubic centimeter containing 500 million killed Staphylococcus albus, 500 million killed Staphylococcus aureus, and 50 million killed Bacillus acne. Fred I. Lackenbach, San Francisco.

Whooping Cough Bacterin (Special Bacterial Vaccine No. 14).—A pertussis bacillus vaccine (see New and Non-official Remedies, 1919, p. 287), marketed in 10-Cc. vials, each cubic centimeter containing 2,000 million killed B. Pertussis. Fred I. Lackenbach, San Francisco.

Staphylococcus Bacterin (Special Bacterial Vaccine No. 1).—A staphylococcus vaccine (see New and Non-official Remedies, 1919, p. 289), marketed in 10-Cc. vials, each cubic centimeter containing 2,000 million killed Staphylococcus albus, 2,000 million killed Staphylococcus aureus, and 1,000 mil-

lion killed Staphylococcus citreus. Fred I. Lackenbach, San Francisco.

Streptococcus Bacterin (Special Bacterial Vaccine No. 10).—A streptococcus vaccine (see New and Non-official Remedies, 1919, p. 291), marketed in 10-Cc. vials, each cubic centimeter containing 1,000 million killed Streptococcus. Fred I. Lackenbach, San Francisco.

Typhoid Bacterin (Special Bacterial Vaccine No. 17).—A typhoid vaccine (see New Non-official Remedies, 1919, p. 292), marketed in 10-Cc. vials, each cubic centimeter containing 1,000 million killed B. Typhosus. Fred I. Lackenbach, San Francisco.

Typhoid-Paratyphoid Bacterin (Special Bacterial Vaccine No. 13).—T typhoid vaccine (see New and Nonofficial Remedies, 1919, p. 292), marketed in 10 cc. vials, each cubic centimeter containing 1,000 million killed B. Typhosus, 750 million killed B. Paratyphosus "A," and 750 million killed B. Paratyphosus "B." Fred I. Lackenbach, San Francisco.

Tetanus Antitoxin—For Human Use: Purified, Concentrated (Globulin).—A concentrated tetanus antitoxin (see New and Non-official Remedies, 1919, p. 266), marketed in syringes containing 1,500 and 5,000 units; in ampules containing 10,000 units, with apparatus for injection. Eli Lilly and Co., Indianapolis, Ind. (Jour. A. M. A., Aug. 30, 1919, p. 691).

THE JOURNAL

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NEWS: Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to physicians. We shall be glad to know the name of the sender in every instance.

Editorials

THE HIGH COST OF PRACTICE.

It is not touching upon a trite subject to mention the present day cost of the practice of medicine, although the caption of this editorial may seem a play on a very common expression. The "high cost of living" has echoed in every home and office in the land. Legislation is actually sought to prevent what is termed profiteering, and there is no one, rich or poor, who has not felt the burden of sustenance tax during the last few months. That part of the story is "trite." Everyone is familiar with the situation. The difference between most people who have felt this strain and the doctor, however, is so great, that one has to but stop to calculate to be convinced of the truth of another "trite" saying: "The guilelessness of doctors."

In almost every line of business there has been a terrific increase in the cost of production or operation, as the case may be. In many lines this has been so great as to encourage almost prohibitive prices on the one hand and productive failure on the other. Particularly, the retailer has borne the burden of a two-fold load: that of realizing enough profit to protect his credit and stay in business, and that of shouldering the abuse of his trade, who felt his prices exorbitant or that he was profiteering.

All this, however, has occurred in the world of commerce. Doctors do not participate in such activities except as laymen. In this turmoil and chaos they are purchasers just as the preacher, bricklayer or lawyer. They have had to stand the increase as citizens, and their personal burdens have been known only to themselves. They have been "doctors" through it all. What now is the difference?

Plainly this: Unlike his merchant friend, his manufacturing friend, his labor friend, his any other kind of friend (except possibly a few other professional friends) he has had to stand the gaff without putting out a gaff to neutralize the poison. In a few instances in Georgia the doctors have raised their "call fees" one dollar. These instances are few and far between, but assuming that every doctor in the state had raised his fee twenty-five per cent. it does not, even in an infinitesimal way, offset his increased expenses.

It is unnecessary to enumerate the different ways a man has to spend money now in order to live. The example of paying four or five dollars for a pair of baby shoes is a criterion of the situation, and we must not be misunderstood as censuring the man who gets this five dollars. He probably has to get it to stay in business. However, this five dollars must be spent if our child is to have shoes. Doctor's children must have shoes. What has the doctor done, in comparison with other people who live "off the public?" His fees are practically what they were ten years ago. If there has been an increase, it is immaterial. What has he had to confront him in his office, aside from the increased expenses in his home? THIS: Office rent from ten to thirty-five per cent. higher. Stenographer's services from 25 to 50 per cent. higher. Maid's services from 50 to 100 per cent. higher. Supplies from 50 to 500 per cent. higher. Automobile maintenance from 10 to 30 per cent. higher.

What other business has had to meet these increased expenses whose prices have not soared accordingly? NONE. Just the doctor. The same, yesterday, today and forever. The best fellow and the damndest fool in the universe.

WHAT SHOULD WE CALL THIS?

There are ways and ways of getting money, and we have heard something of nearly all the schemes that have been devised for this purpose. There is the scheme of the porch climber, for instance, and the scheme of the pick-pocket, and that of the short-change artist, and the scheme of the three card monte shark, and the sleep-producing plan of the highwayman with the sandbag, none of which is quite as refined as the method of the counterfeiter, but each of which has its adherents, as the records of our criminal courts will show.

Lately we have heard of another scheme, which for originality and for downright crookedness and meanness has all others backed off the boards. When we have described it, we should like to have your suggestion as to what we shall call such practice without the use of descriptive profanity.

A doctor, or rather a man with a license to practice medicine, sends a specimen of blood or sputum to the laboratory of the State Board of Health for examination, that he may be able to make a diagnosis. The laboratory makes the examination and reports to the doctor, who then proceeds to collect a nice little fee from his patient for whom the examination was made. The laboratory makes all examinations without cost to doctors or people.

What shall we call it? Thievery? Too mild. Robbery? Absolutely an inadequate term. Stealing? Does not begin to indicate the meanness of it. Give us a name for it. —Editorial, Journal of the Tennessee State Medical Association, July, 1919.

SOUTHERN MEDICAL ASSOCIATION TO MEET IN ASHEVILLE.

The thirteenth annual meeting of the Southern Medical Association will be held in Asheville, N. C., November 10-13.

This should be one of the most successful meetings the association has ever held. The meeting place, itself, almost vouchsafes its success. Asheville is one of the garden spots of the country and many will journey there for the first time to enjoy its delightful surroundings.

The program is an excellent one, and the largest crowd on record is expected.

Following is a resume of the programme:

Monday, November 10th: Section or Urology, Section on Pediatrics, National Malaria Committee (Conference on Malaria), Southern States Association of Railway Surgeons, Conference on Medical Edu-

cation, Southern Gastro-Enterological Association, and at night a public meeting under the direction of the Section on Public Health.

Tuesday forenoon: The formal opening with the addresses of welcome, address of the president, Dr. Lewellys F. Barker, the Orations on Medicine, Surgery and Public Health, etc.

Tuesday afternoon, Wednesday and Thursday: Section on Medicine, Section on Public Health, Section on Surgery and Section on Eye, Ear, Nose and Throat. Also on these days the American Child Hygiene Association (formerly the American Association for the Study and Prevention of Infant Mortality).

Tuesday night: A big general meeting early in the evening followed by a reception to the president at the famous Battery Park Hotel.

Wednesday night: Another general meeting.

THE COUNCIL MEETS.

The Council of the Medical Association of Georgia held its first meeting of the year in Atlanta on September 10th. The action of the officials of the Association in actively opposing the chiropractic bill during the last General Assembly, was heartily endorsed. It will be remembered that this bill passed the House, but was fortunately, tabled by the Senate.

Annual meetings of District Associations was also recommended.

The change recently made in the Journal was also endorsed.

The minutes at the meeting follows:

Minutes of Meeting of Council of Medical Association of Georgia, September 10. 1919:

Meeting called to order by the Chairman. Dr. E. T. Coleman.

Councillors present—Drs. C. K. Sharp, H. W. Terrell, E. P. Merritt, J. O. Elrod, Geo. B. Smithfi W. E. McCurry, L. C. Allen and E. T. Coleman.

The President and Secretary of the Association weer also present.

The President appointed Dr. H. D. Allen, of Milledgeville, as a member of the Council from the Tenth District, Vice Dr. J. A. Price, removed from State.

He also appointed Dr. R. C. Woodard, Adel, Ga., Councillor of the Eleventh Distrist, Vice Dr. J. G. Tuten, deceased.

On motion of Dr. Merritt, the Council recommended that the Councillor of each district request of his district society a consideration of the question of holding annual meetings during the month corresponding with the number of the district. Additional meetings to be held on such dates as may be decided upon by the society.

It was suggested by the President and adopted by the Council that Councillors recommend to District Societies that a part of the Program at each Annual Meeting be devoted to a public meeting, where matters of an educational nature might be discussed, and that various civic organizations both men and women be invited to attend and participate.

Motion by Dr. Elrod: Whereas, The Secretary-Treasurer is a bonded Officer of the Association. All contracts entered into, purchase made, or receipts given, in the name of the Association, the Journal thereof, or officers or committees shall be upon order of the Secretary-Treasurer and will not be considered valid or binding unless signed by him. Carried.

The action of the Officers and Committee of Public Policy and Legislation in opposing the passage of House Bill No. 1, in the Geenral Assembly as a measure detrimental to public welfare was approved.

The Council approved the proposed action to increase the size of the Journal as early as scientific material is obtainable warranting same. Each Councillor agreed to see that medical news items in his district should be sent to the Journal before the tenth of each month, and that papers read at district and county society meetings should be forwarded immediately.

The Councillors reported on the conditions existing in their respective districts.

Upon motion the meeting adjourned, subject to call during the month of November.

W. C. LYLE, M. D.,
Secretary.

ABSTRACTS

DILATATION OF THE URETER AND RENAL PELVIS.

W. F. Braasch, M. D.

Section of Urology,

Mayo Clinic, Rochester, Minn.

Dilatation of the ureter and renal pelvis may be caused by these etiologic factors: Mechanical obstruction, infection, and disturbance of innervation. The various types may be recognized by differences in (1) outline, as observed in the pyeloureterogram, (2) pathology, and (3) clinical data.

Dilatation by Obstruction: Dilatation by mechanical obstruction is characterized by (1) predominance of dilatation in the pelvic rather than in the calyces or ureter, and (2) comparative regularity of pelvic outline. The changes in the outline of the renal pelvis accompanying early and late hydronephrosis are described in detail, enabling their recognition in the pyelogram. Mechanical dilatation of the ureter is differentiated from inflammatory dilatation in that it is greatest near the point of obstruction and diminishes gradually as it nears the pelvis. In order to determine the existence of ureteral obstruction it is necessary that such dilatation be outlined.

Inflammatory Dilatation: Any considerable degree of chronic infection involving the renal pelvis and ureter will be followed by dilatation. This dilatation is not caused by mechanical obstruction, but is the result of either change in the tissues and consequent retraction in the walls of the pelvis and ureter or of necrosis. The dilatation may vary from scarcely recognizable irregularity of the calyces or dilatation of the ureter to complete destruction of the pelvis. It differs from mechanical dilatation largely in these characteristics: (1) Predominance of dilatation in the calyces or ureter rather than in the true pelvis, and (2) comparative irregularity of outline. It will be found that certain renal infections (evidently those predominant in the tissues adjacent to the renal pelvis) are usually accompanied by a considerable degree of inflammatory dilatation, largely in the calyces, whereas in the other renal infections (evidently those predominant in the renal parenchyma) the dilatation is confined to the ureter with an actual decrease in the size of the pelvis. The changes more commonly found in the outline of the renal pelvis as the result of an inflammatory process are: (1) Dilatation confined largely to the calyces; (2) dilatation involving entire pelvis; (3) pyonephrosis; (4) contraction of the pelvis with dilatation of the ureter; (5) alternating contraction and dilatation, and (6) atrophy. Inflammatory dilatation of the renal pelvis frequently accompanies renal stone and may be of diagnostic value.

As with inflammatory changes in the renal pelvis, an inflammatory process in the ureter is followed by tissue changes in its walls which cause more or less dilatation. The changes in the pelvic outline may be so slight as to remain unrecognized, whereas the dilatation in the ureter may be the only evidence of a previously existing inflammatory process. The outline of the ureter, if well distended with mediums, will appear dilated as the result of infection. This dilatation is usually greatest near the uretero-pelvic juncture in contrast to the dilatation from stricture of the lower ureter, which is usually greatest near the point of constriction. The course of the ureter, particularly in its upper portion, is frequently tortuous and occasionally appears markedly angulated.

It must be considered that both inflammatory and mechanical factors may be present with ureteral and pelvic dilatation. Either factor may be the primary cause of dilatation with secondary influence of the other. Thus a primary inflammatory dilatation such as occurs with chronic pyelonephritis, may be complicated by stricture formation, with the usually subjective symptoms of urinary retention. Likewise a primary stricture of the ureter will sooner or later cause urinary infection, together with in-

flammatory invasion of the ureteral wall. In fact, it may be difficult to determine which was the primary factor.

Atonic Dilatation: Dilatation of the ureter associated with disease in the central nervous system is occasionally observed. Such dilatation may in some instances be due to backing up of the ureter in the overdistended bladder. At other times it is probably due to the same disturbance of innervation of the bladder which affects the lower ureter.

Another form of dilatation involving the ureter and pelvis is described. This condition is usually bilateral, and has been attributed to atony, spasmodic contracture of the bladder, inflammatory dilatation, and congenital insufficiency of the ureterual sphincter.

Pathologic Data: With chronic infection of the pelvis and the ureter a change takes place in their tissues which is evidently the cause of dilatation. When the pelvis is opened the calyces are usually dilated to a variable degree and the pelvic wall is thickened. When dilatation of the true pelvis is present it is not so great as that usually seen with mechanical obstruction to the ureter, nor is there such thinning of the walls. On inspection the increase in size of the ureter is found to vary from a slight degree to a diameter of two centimeters. Dilatation to a greater degree than this is usually the result of mechanical obstruction. On palpation the ureter is thicker than normal and firmer. This is particularly so with renal tuberculosis. On cross section of the ureter, the walls are seen to be hypertrophied, and the lumen is increased in proportion. With some cases of infection the changes found in the ureter may be greater than those visible in the pelvis. Microscopic examination of the walls of the pelvis and the ureter results in abnormalities: (1) Proliferation and often cornification of the mucosa; (2) variable degree of leukocytic infiltration of the submucosa and musculature; (3) variable degree of connective change in the submucosa and serosa; and (4) relative thickening, often to a marked degree, of the serosa. In the main the inflammatory changes differ from the mechanical in (1) the greater degree of leukocytic infiltration; (2) more marked connective tissue changes in the submucosa and serosa, and (3) increase in thickness of the serosa.

Clinical Data: From a clinical standpoint inflammatory dilatation frequently exists without any subjective symptoms of pain. This would be impossible if the condition were due to mechanical obstruction.

Conclusions: Dilatation of the ureter and renal pelvis may occur without mechanical obstruction.

The differences between mechanical and inflammatory dilatation, in their anatomy, pathology, and clinical data are quite definite.

The clinical demonstration of inflammatory dilatation may be of diagnostic value.

PATHOLOGY.

The Role of the Pathologist in the Practice of Medicine. MacCarty and Broaders (Jour. Lab. and Clin. Med., Vol. IV, p. 687-690), review the laboratory work done at the Mayo Clinic during the year 1918. In the early history of medicine, clinicians knew all there was to be known of the pathologic conditions and processes simply because little was known about them. As the study of medicine progressed there developed the pathologist who concerned himself with technical laboratory and postmortem examinations and the clinician dealt largely wit hhistories, symptoms, signs and treatment. However, each is now modifying his functional efficiency; the clinician is studying pathologic conditions and processes and the pathologist is beginning to associate himself intimately with the patient and his clinical colleagues. Scientific efficiency can only be obtained by one method; namely, that of having the clinician intimately associate himself with the work and judgment of the pathologist without doing detailed laboratory technique and the pathologist associate himself with the work and judgment of the clinician in his study of the patient without doing routine technical procedures for which the clinician is especially trained. Of 49,983 patients reg-

istered at the Mayo Clinic during 1918 each patient averaged 4.2 laboratory reports, each report usually representing many examinations. 22.7 per cent. of all patients presented diagnostic and surgical tissue specimens for examination and 3.5 per cent. of all patients had specimens of tissue removed solely for diagnostic purposes.

The pathologist's reports have one or more of the following values to the patient and clinician: 1. They confirm the diagnosis of which there might be a clinical suspicion, i. e. the clinician suspects that an ulcer of the lip or stomach is malignant and the microscopic examination confirms the suspicion. 2. They actually make the diagnosis in which there is no clinical diagnostic suspicion, i. e. the clinician obtains a history of a gastic lesion, which, upon exploration appears to be an extensive carcinoma—microscopic examination reveals the gastric lymphatic glands inflammatory. The patient has a negative preoperative Wassermann reaction and the specimen after the resection for the obstructive mass reveals an inflammatory condition which turns out to be syphilitic, confirmed by a positive postoperative Wassermann reaction. The diagnosis and prognosis are considerably altered. 3. They recognize accessory pathologic conditions. 4. They correct the clinical diagnosis. 5. They confirm the positive clinical diagnosis, i. e. the clinician makes a diagnosis of syphilis from the presence of a small scar on the prepuce; the patient gives no history of primary or secondary syphilitic lesions but admits the great possibility and the pathologist reports a positive Wassermann or the clinician diagnosis and endocarditis and streptococci are found in the blood or there is a chronic inflammatory condition of the urinary bladder with pus in the urine and the clinician makes a diagnosis of tuberculosis from the history and the presence of an old tuberculous focus in the lungs—the pathologist demonstrates the B. tuberculosis in the catheterized ureteral urinary specimen, or a patient has a profuse hemorrhage from the uterus after menopause, there being no pelvic mass; a diagnosis of malignancy is made and the scrapings reveal a carcinomatous polyp. 6. They determine the degree of the process of disease. 7. They determine the physical status of the patient preparatory to possible operation. 8. They help to determine the extent of the operation, i. e. a young woman presents herself with a nodule in the breast; it is locally removed and submitted to microscopic examination. The extent of the operation necessarily depends upon the report. A young patient has prolonged irregular uterine hemorrhage for which a reliable surgeon or clinician would hesitate to advise a hysterectomy. The uterus is curetted and the diagnosis of carcinoma is made followed by hysterectomy. 9. They give data for the preoperative, operative, and posthospital prognosis. A patient needs an operation for removal of gall-stones, bladder stones, ureteral stones, hypertrophy of the prostate, or carcinoma of the uterus but the examination of the blood reveals a low hemoglobin and the renal functional test reveals marked anemia and renal insufficiency. The prognosis is somewhat dependent upon these findings. 10. They determine the cause of death in non-operative and operative cases. 11. They determine the cause of death due to false operative judgment. 12. They determine faulty operative technical causes of death. 13. They assist in determining causes and methods of surgical infection, i. e. routine bacteriological examinations of operative wounds, operative materials, contents of operated organs or tissues lead to a better control over possible infections. 14. They assist in clinical, surgical, and laboratory research.

In conclusion the statistics presented here should be sufficient to show the medical profession that laboratory methods which were formerly considered principally of postmortem and research interest have become an essential part of efficient routine practice of medicine. Bunce.

THE INTERNE YEAR.

J. M. Dodson, Chicago (Journal A. M. A., Aug. 16, 1919), gives an account of the regulations for the selection and employment of interns in the Universities of Chicago and Minnesota. The regulations of the latter

are concisely stated in reply to a request for information, and those of the former are said to be quite similar. In the Rush Medical College, the selection of an intern year in a hospital or a year of advanced clinical work in one of the departments of the college is a matter of choice with the student. The intern must secure a position in a hospital either by examination or by appointment and notify the dean, who will inform him whether the hospital is approved or not. During his service, the intern is required to report to some member of the faculty and submit copies of some of the case histories. Whenever possible, the supervisor will be a member of the medical staff of the hospital in which the student is taking his intern service. If the student abandons the internship without the consent of the hospital authorities or without valid and ample reason, he will be denied his degree. Unless excused by the faculty, he must be present at the convocation when his degree is conferred. For a number of years the Rush graduates serving in hospitals outside of Chicago have been asked to report on these hospitals with critical comments. No graduate should enter on independent practice without at least a year of experience under skilled and careful supervision. During the last fifteen years the number of hospitals has greatly increased, while the number of medical graduates has lessened, so that at the present time possible internships exceed the number of candidates for them. At present, no single factor can be so helpful to the hospitals as the support of the stronger medical schools. There are few legal difficulties in the way of making the intern year universal, and Dodson thinks that rules requiring the period of intern service to be divided among the different departments of the hospital service should be modified. Continous service is best, but, if possible, the intern ought to follow a year of surgical service by six months on the medical side or, better still, reverse the order. Dodson thinks that even two years service in the hospital is hardly sufficient to make thoroughly trained men. While few hospitals are heavily endowed and have full equipment or give sufficient compensation to the medical staff, Dodson thinks the medical school can be helpful in advising them how best to use their resources.

PATHOLOGY AND PRACTICE.

F. C. Wood (Journal A. M. A., Aug. 23, 1919), says that the present neglect of pathology, or morbid anatomy, as it was formerly called, is shown in various ways, in the lessened volume of published work, the fewer necropsies and the smaller number of men taking an active interest in the subject. The pendulum may swing the other way, as there are still a few things to be learned. Technical improvements in histologic methods have also lagged somewhat, except, perhaps in neuro-anatomy. He asks whether the subjects of nephritis, cirrhosis, etc., are exhausted, and whether tumors are not as baffling as ever? The lack of interest in pathology begins with the student, who is badly taught in many ways, largely through a lack of necropsies. In most hospitals, he says, we see today only a fraction of the necropsies performed, witnessed by seniors twenty years ago. The physician of today is more interested in functional tests than in morbid anatomy, notwithstanding the importance of both. The admirable results, when both lines are followed fiare shown by the advances made in the past fifteen years in the correlation of anatomic findings wih groups of symptoms in nervous diseases. The internist could well imitate the neurologist in his laborious studies of the nervous system. The surgeon is not without a certain feeling that pathology is a somewhat dead if still annoying specialty. The surgeon needs pathologic training when some unexpected pathologic conditions is discovered during an operation. He needs tumor pathology above everything else, and a general knowledge of the subject is essential for correct diagnosis, prognosis and treatment. It is the foundation of all medicine, and the student should be inspired to carry on its study throughout his professional life.

DUODENAL AND GASTRIC ULCER.

J. S. Horsley, Richmond, Va. (Journal A. M. A., Aug. 23, 1919), describes a new operation for duodenal and gastric ulcer. He

points out the objections to the usual surgical treatment by gastro-enterostomy and reviews the statistics of Balfour, Smithies and others, pointing out the disadvantages of the surgical treatment and its imperfect results. Lennander's statement that the stomach is without sensory nerves seems to be disproved by other investigators. Gastro-enterostomy probably relieves the pain from an ulcer by facilitating the emptying of the stomach, thus lessening peristalsis. It is largely a treatment of a symptom, and not the relief of a pathologic condition. When pyloroplasty is performed, the operation is usually that of Finney, and, while a distinct improvement over gastro-enterostomy, is not free from objections. Mobilization of the duodenum, which is necessary in this operation, may be quite difficult; and, according to Finney, the operation often cannot be done when there are numerous adhesions. The sphincteric action of the pylorus would also seem to be seriously impaired. The Heineke-Mikuliez operation as it is ordinarily understood, finds but few advocates. The objections to it are stated. Horsley compares the operative treatment of the pylorus to that of ulcer and fissure of the anus, the treatment of which has been successfully standardized. We would not think, he says, of treating a fissure in ano by performing a colostomy and side-switching the fecal contents, particularly if it permitted a small amount of fecal matter to continue to pass through the anus, yet in performing a gastro-enterostomy to cure gastric and duodenal ulcer, we are practically doing that sort of thing. We know that the ulcer in the anus does not heal readily because of the continuous action of the sphincter, and to heal it we must employ the principle of physiologic rest by temporary paralysis of the sphincter and excision or cauterization of the ulcer treatment, which experience has shown will cure in practically 100 per cent. of such cases. Horsley therefore describes his method of employing this principle in cases of pyloric or gastric ulcer. An ample opening is made into the abdomen and the lesion removed. The steps are described in detail, and the following advantages are claimed: removal of the obstruction and the pathologic condition; over the Finney and Heineke-Milkulicz methods it has the advantages that the angles of the incision are within the healthy stomach wall, and the scar tissue will be united, not to adjoining scar tissue, but to healthy stomach wall, and there is no pouch formation as in the Heineke-Mikuliez operation. The method described merely changes the shape of the funnel with gradually approaching walls into a rectangle that empties into a more pyloric end of the stomach from that of a obtuse angled funnel. The parts to be put at rest are those most concerned in contraction and relaxation, and the function of the pylorus is not permanently destroyed. The operation is also simpler than the Finney method, and while it has a superficial resemblance to the Heineke-Mikulicz method, it differs from it in some of the points already mentioned as advantages. Postoperative treatment is about the same as that for gastro-enterostomy. The first operation was performed in September, 1918, and Horsley has employed it in eleven cases, four of which are reported. Nine of the eleven patients are now living, of whom four are entirely free from complaint; two consider themselves greatly improved but still have some minor symptoms. In four in whom the ulcer was the sole or chief lesion, the condition seems fully relieved. One had a recurrence, requiring another operation. Three of the patients had gastric ulcer; among these was one death, which can hardly be justly attributed to the pyloroplasty. There were two patients with pyloric stenosis, one of whom died from secondary hemorrhage; the other is cured. All six patients with duodenal ulcer are well or greatly improved. The article is illustrated.

SNEEZING.

A. P. Brubaker, Philadelphia (Journal A. M. A., Aug. 23, 1919), defines sneezing as a spasmodic expiration preceded by one or more spasmodic inspirations. As a whole, the act of sneezing is quite complex, and involves two different reflex mechanisms, the nasal and the respiratory, each of which consists of afferent nerves, a central organ, and afferent nerves and responsive organs. He describes the mechanism in detail. The

inspiratory reflex of the nerve mechanism is transmitted by fibers of the fifth nerve going to the nasal membrane, and having their central termination united to the inspiratory center. The whole physiology of the act is explained in detail. Together with the stimulation of the afferent nerve fibers, there is that of the purely sensory nerves, which evoke sensations which contribute much to the pleasure of the sneeze, and lead to various muscle reactions and sounds. The afferent mechanism is widely distributed throughout the body, and the stimulation of certain cutaneous nerves by exposure to low temperature and currents of air causes a dilatation of the nasal blood vessels and a discharge of mucus, and occasions a series of reflex spasmodic sneezes. Psychic states of an affective or emotional nature may also stir up a sneezing. It has been often observed that the nasal and sexual excitation coexist, not in the relation of cause and effect, but as due to the same psychic factors. Inability of the central nervous system, either alone or as expressing more general nervous instability, may cause similar results.

DERMATOLOGY.

O. H. Foerster, Milwaukee (Journal A. M. A., Aug. 30, 1919), says that as compared with the voluminous literature concerned with the cutaneous expression of disease that dealing with affections of the mucous membrane is disproportionately small, though the subject warrants greater consideration than has been given it. The occurrence of papules and vesicular and exudavite processes in the mucosa in connection with various diseases is often noticed, but those of special interest to the dermatologist, aside from syphilis, are the lesions of the mucous membrane, associated with disorders classified as typically cutaneous. Among this group are lichen planus, erythema multiforme, dermatitis herpetiformis, the three varieties of pemphigus, erythematous dupus, lupus vulgaris, herpes and impetigo herpetiformis, mostly dermatoses of constitutional origin. The involvement of the mucous membranes is of regular occurrence in many of these conditions and may proceed to cutaneous symptoms or, more rarely, constitute the only manifestation of the disease. Forester reviews at length the symptomatology of lichen planus, which is one of the most accurately studied affections of the mucous membranes, and is of comparatively frequent occurrence. The essential lesion is a papule, convex, conical or flattened, hard, whitish gray, and of pin-head size or smaller. These lesions are discrete and scattered or arranged in groups or lines, and are without an inflammatory halo. Foerster quotes Lieberthal's description as accurate and concise. In addition to its appearance in the oral cavity, lichen planus appears also sometimes on the gainal and urethral mucosa, and not infrequently on the glans penis. Foerster has observed that lichen planus of the skin, with itching, is very often diagnosed as itch by the practitioner and advises examination of the mouth in these cases. Lupus erythematosus may also be limited to the mucous membranes entirely, which is rare, or for a time preceding its appearance on the skin or scalp. Its recognition under these circumstances is difficult and dependent on the stage of the process. In the early stages, recognition may be almost impossible, as the affection begins with a bluish-red, slightly elevated spot indefinitely outlined on the oral mucosa, with sometimes slight erosion. Within a few days, however, the margins become elevated and distinct in outline, and delicate vascular striations are observed, converging toward the center of the lesion, which is now depressed and eroded. Later it increases in depth, loses its inflammatory character and enters on the stage of atrophy and quiescence. Its resemblance to syphilis is like that of lichen planus and sometimes may cause confusion. Other dermatoses in the mouth are not so likely to have this mistake made concerning them, though erythema multiformis and pemphigus may also suggest the mucous patches of syphilis. Foerster gives points of diagnostic differentiation, such as the polycyclic outlines and collarette of epithelial shreds fiand the facts that the lesions are usually painful and bleed readily, are always superficial and not infiltrated, and are always inflammatory in their borders. Urticaria, angioneurotic

edema and purpura often involve the mucous membranes of the nose, mouth and alimentary tract. Drugs may cause erosive lesions; and acanthosis nigricans, made known by Politzer, affects the lips and mouth with considerable regularity. Several other constitutional diseases, like scurvy, pellagra, acute leukemia and pernicious anemia, often affect the mucous membranes, as well as tuberculosis, syphilis, etc. Three conditions to which Foerster directs attention are: First, "geographic tongue," regarding which some confusion seems to exist; this he has observed most often in adults and very rarely in children. Second, Moeller's glossitis, the description of which by Harris is quoted. Third, Vincent's disease, which he thinks will probably become an important factor in the differential diagnosis of mucosal disease with the return of soldiers from Europe. The spirilla of Vincent are known as the causative agents and are readily seen in dark field preparations. The possibility of confusion with syphilis is not remote, and their similarity to mucous patches may be striking. The possibility of the coexistance of the two diseases should be kept in mind, as mercurial treatment may stir up a quiescent Vincent's disease in the syphilitic.

NASAL SINUSES IN CHILDREN.

S. Oppenheimer, New York, (Journal A. M. A., Aug. 30, 1919), says it seems probable that many cases of meningitis in children are the results of sinusitis. His experience is that chronic sinusitis is common in children. He describes the development of nasal accessory sinuses and the questions raised as to their function. The contention, he says, that they are an adjunct to respiration by moistening the inspired air is not supported by histologic findings. The most important inflammatory affections in the child are those of the ethmoid cells, which are more frequently involved than the frontal and sphenoidal sinuses. The anterior group of these cells is most important, as it is situated where the infection most frequently takes place. The recognition of sinusitis in the child is harder than in the adult, the symptoms are more obscure, as a rule, and it is unusual to have a single sinus, only, of the inefctious diseases in childhood, with involved. The frequency of the occurrence their concomitant inflammation of the usual mucosa, explains why the sinuses are affected, especially in scarlet fever, measles, influenza and pneumonia. The accessory nasal sinuses are normally able to drain themselves, aided by the ciliated epithelia, and the normal openings of some of the cavities are also in the most dependent portion of the sinus when the head is held in the upright position. The bacteriology is reviewed, with a special discussion of staphylococci as an infecting organism, and Oppenheimer reports experiments on rabbits which seem to show, in most cases, that staphylococci are only secondary invaders. The recognition of the various sinus invasions in the child is more difficult than in the adult, and the use of carefully made roentgen plates is of great service. Aching pain is also a symptom almost always present, except in chronic cases in which the secretions are freely discharged. A marked symptom of great diagnostic value is the cessation of pain with a free nasal discharge and its return when this lessens. The methods of locating the disease are the same as when it occurs in the adult. Aprosexia and disturbance of general health are more or less inevitable associates of chronic, purulent sinusitis, while comlications, as in the adult, of chronic, purulent sinusitis, while complications, as in the adult, are not so frequent. The location of the disease varies somewhat with age and the bony development. The recognition of purulent sphenoidal sinusitis is by far the most difficult, as it is practically always combined with ethmodidal changes, and the symptoms are not characteristic. In the treatment of sinusitis in the child, the aim should be to destroy mucosa should be preserved if operative procedures become necessary. The use of some type of suctional negative pressure apparatus for freeing the nose of secretions proves very beneficial. Palliative treatment will cure the majority of acute inflammations when such treatment is intelligently directed toward free drainage. Oppenheimer believes that intranasal treatment is indicated primarily in all cases of sinusitis in chil-

dren, but he strongly emphasizes the importance of preserving the turbinal tissue. The operative treatment is described, but he believes conditions rarely indicate radical external operation for the relief of purulent sinusitis, and that more conservative intranasal measures are better.

TYPHOID CARRIERS.

The surgical treatment of typhoid carriers is the subject of an article by H. J Nichols, J. S. Simmons and C. O. Stimmel, Washington, D. C. (Journal A. M. A., Aug. 30, 1919). The literature of treatment of typhoid carriers contains the record of a number of apparent cures following cholicystectomy, and the use of the roentgen ray vaccines, lactic acid bacilli and various drugs. The conclusions in these cases, however, are based almost altogether on the results of cultures of the feces, and the authors here cited consider this not altogether conclusive. Under the direction of the Surgen-General's Office, examinations were made at the beginning of the war of a large number of men, and on account of the unusual opportunity to investigate the carrier problem, the carriers found were collected, as far as possible, at the Walter Reed General Hospital for treatment and observation. Some of them consented willingly to operation when surgical treatment was advised, and the remainder agreed when the alternatives of court martial and probably cure were explained to them. Several cases are reported and the findings in them described. The standard test of operative cure was three successive negative cultures of duodenal contents. The summary and conclusions of the work are given as follows: "1. So-called urinary typhoid carriers are really kidney carriers and can be cured by nephrectomy. An additional argument for operation is present if the infected kidney is functionless. One such case is recorded. 2. 'Intestinal' carriers are really bile passage carriers of two kinds: (a) Cases in which the gallbladder alone is infected. These can be cured by cholecystectomy. Four such cases are recorded. (b) Cases in which the gallbladder and bile passages are both infected. In these cases cholecystectomy does not cure the carrier condition, and the condition is incurable at present. Two such cases are recorded. 3. The surgical treatment of typhoid carriers, while not perfect, is the best available."

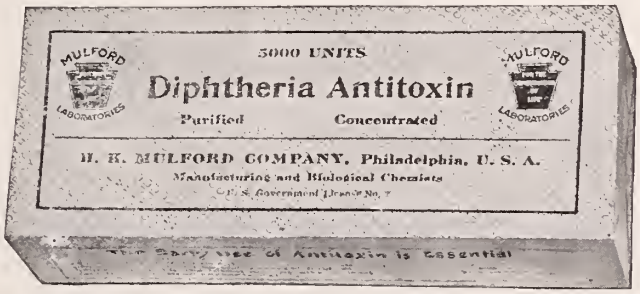
MUSTARD GAS.

E. K. Marshall, Baltimore (Journal A. M. A., Aug. 30, 1919), describes the composition and effects of the mustard gas (dichlorethylsulphid), which is not a gas at all but a high boiling, oily liquid which vaporizes slowly in the air. In the concentrations of the gas present in the field, there is probably little systemic effect, it has a local action on the respiratory tract, eyes and skin. The systemicaction of the substance, however, is important as it leads to be a better understanding of its action, and hence to a rational method of treatment. Two of the first points to be determined are is toxicity in the form of vapor, and what concentrations are dangerious in the field. Such knowledge is necessary to ascertain how effective protective devices have to be to remove the gas and to furnish a basis for accurate experimental work on treatment. Difficulties arise. The concentration is not accurately known unless chemical analyses of the air are made, and it is found that concentration decreases markedly with time by condensation on the walls of the experimental chamber, absorption by the hair and skin of the animals and probably by decomposition of the substance by moisture in the air. Marshall describes the methods of meeting these difficulties. Without giving detailed figures, he says, it may be said that the gas is extremely toxic. About one part in three million will cause a skin burn, and in much greater quantities, death after some days. The reason why it has been more incapacitating than fatal in war conditions is undoubtedly its low vapor pressure. The symptoms are well known and there is no doubt that in high concentrations it is absorbed through the lungs and produces systemic effects in the body. The mechanism of the action seems to be: "1. Rapid penetration of the substance into the cell by virtue of its high liquid solubility. 2. Hydrolysis

by the water within the cell to form hydrochloric acid and dihydroxyethylsulphid. 3. Destruction by hydrochloric acid of some part or mechanism of the cell."

The ideal treatment for mustard gas poisoning would be to employ some nontoxic substance to penetrate the cell and neutralize the action of the hydrochloric acid. Efforts have been made in this direction but have not been entirely successful. Some persons are more readily effected by mustard gas on the skin than others. Negroes as a race are more resistant, and from 2 to 3 per cent. of white men are hypersensitive, while from 20 to 40 per cent. are resistant. One may be severely affected while others are not at all.

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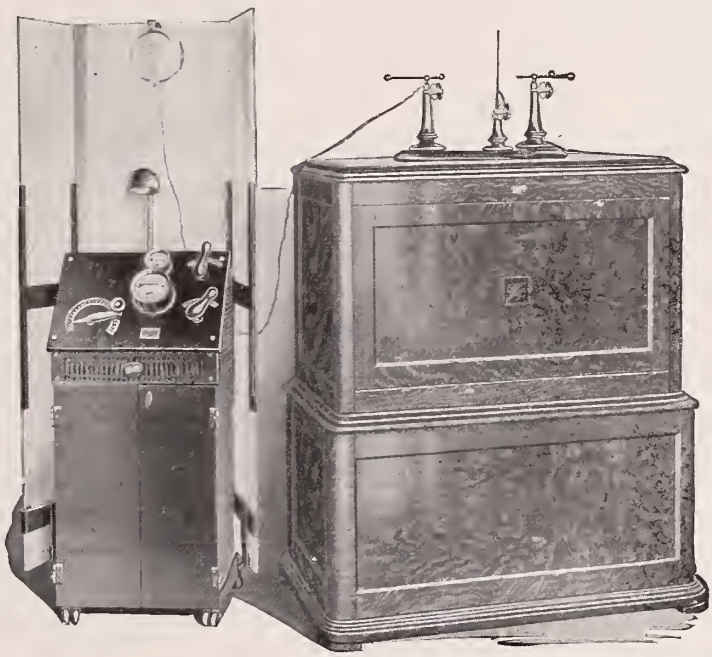
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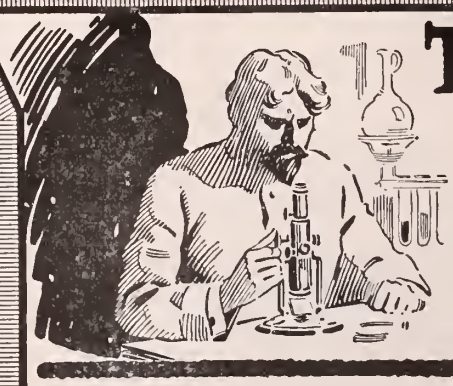
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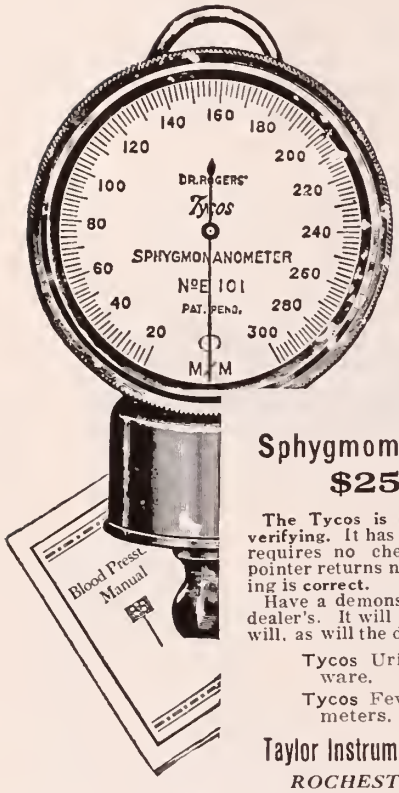
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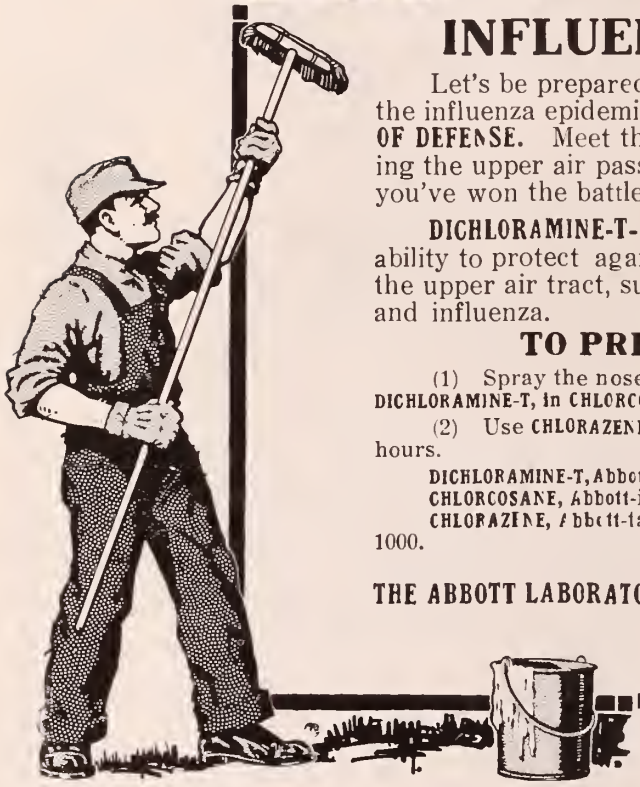
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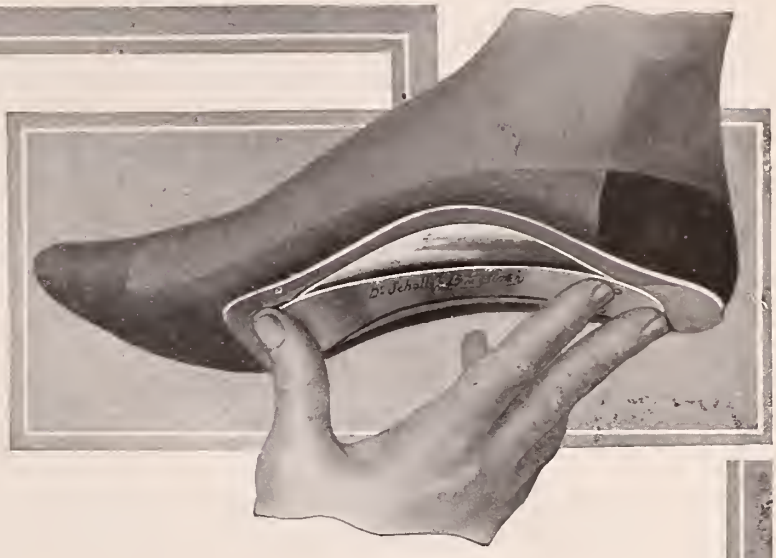
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THE JOURNAL
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ORIGINAL ARTICLES

A STUDY OF TWENTY-FIVE CESAREAN SECTIONS.

By G. P. Proctor, M. D., Athens, Ga.

Some ten years ago, I read before a meeting of the Eighth District Medical Society a paper on Caesarean section. At that time I had done this operation only a few times, and the paper was inspired by the ease and apparent safety of the operation. I predicted for it a rapid increase in popularity. My prediction has been justified.

Prior to the last decade, Caesarean section was looked upon with awe and distrust, though why it should have been, we cannot (in view of its simplicity of execution(understand. Practically all surgeons who did it at all—and the percentage of times was small—employed it in the presence of what is termed the "Absolute Indication." That is, where there is no possibility of delivery of the child through the natural passage, the way being blocked by a contracted pelvis, a neoplasm, scar tissue, or what not so long as a mechanical impediment exists, under such indication, its practice may be looked upon as strictly deliberate surgery, and other conditions being normal, the mortality to both mother and child should be practically nil. Thought Dr. Lee, in an article in the A. M. A. Journal of July 12th, claiming a hundred cases without death "attributable to operation" sets forth that we may count upon a maternal mortality of at least two per cent., "which is unavoidable."

I do not agree with him in this, where the case comes to operation from only the "Absolute Indication," any more than I would look for a mortality of two per cent. in any series of simple, uncomplicated appendectomies.

Now, when we depart from the deliberate cases ,where we are operating at a selected time under favorable surroundings, and come to emergency measures to meet desperate conditions, suc has placenta previa, uterine rupture, eclampsia, uterine trauma from external violence, etc., when neither the time nor the place nor the patient can be chosen, and it becomes a matter of the choice of evils, we choose caesarean section because it is the lesser evil of obstetrical operations, and we expect a higher mortality, not because of the operation, but because any one of the conditions named is per se sufficient to kill the woman. The operation doesn't kill the woman, it is simply insufficient to keep her from dying from the condition which necessitated our choosing a method of interference, and we have only failed in our efforts to save a life, as sometimes we fail to save a case of pneumonia or typhoid fever, or strangulated hernia or any other grave disease that can destroy life. Let us not join the cry of the laiety and attribute to the operation the death of the patient, such a death is rare, and when it does occur is always due to the carelessness or ignorance of somebody concerned.

Of the twenty-five cases reported, we have the following indications:

Group I. "Absolute Indications," contracted pelvis, mechanical obstruction, etc. —5.

Group II. Placenta Procvia.—3.

Group III. Ruptured Uterus.—1.

Group IV. Uterine Trauma-Gunshot wound.—1.

Group V. Malposition of Foetus.—1.

Group VI. Puerperal Eclampsia.—14.

Group I. "Absolute Indications":—Four of these women came to operation because of contracted pelvis. The maternal mortality was nil, the death rate of the babies was 25 per cent. The child which died, was delivered in the seventh month, of a thirteen-year-old girl, who was suffering from pulmonary tuberculosis, tuberculosis of the spine, and tubercular deformities of the

pelvis. Its death was not a surprise.

Case 5, of Group I, was done for blocking of the vaginal outlet by scar tissue. Both mother and child lived.

Summary of Group I.

Maternal mortality ..... 0 per cent.

Foetal mortality .....20 per cent.

Group II. "Placenta Praevia":—The three women in this group came to operation because of placenta praevia. All three of the women and two babies were saved. The third baby died. It seemed developed, but was two months premature and never breathed properly, and died on the second day following delivery.

Group III. "Ruptured Uterus":—The only case in this group was a primipara, pregnant with a fourteen pound baby, six weeks late according to all estimates, and suffering from dystochia. Pituitrin-1 c.c. was given after she had been in second stage labor over six hours, without pereeptible progress. Rupture of the uterus beyond repair was the urgent cause of hurried Porro Caesarean Section. No skilled help to resuscitate the child was available and it died, not until it's heart had beat some time, however. Because of very free hemorrhage, my attention was demanded by the mother at the expense of the child. The mother recovered.

Group IV. "Uterine Trauma":—The trauma in this case was a gunshot wound. A 36 caliber bullet perforated the uterus, at the right Tubal attachment, passed through the right foot and left arm of the child, and lodged in the placenta. The child lived only a few hours, and the mother died about the end of the 3rd week. The cause of death was obscure, and autopsy was refused.

Group V. "Malpositions":—The one case in this group was a primipara, who was in second stage labor for eighteen hours without progress. When called I found a transverse position and advised Caesarean section. This was done—both mother and child living.

Group VI. "Puerperal Eclampsia":—This group comprises more than the other five groups combined. They came to operation in all o fthe varying stages of uremia—from coma to convulsions—but few of them ever regaining consciousness between the first convulsion and delivery. Of the founteen cases, four mothers and seven babies failed to live. Maternal mortality 40 per cent. Foetal mortality 50 per cent. Of the four mothers who died, one was severely burned, having fallen into the fire at the time of her first convulsion. She died of edema of the glottis caused by the burn, twenty-four hours later. Two were moribund when put upon the table, and the fourth died three days after operation, her kidneys seeming unable to recover from the nephritis. Of the seven babies that failed to live, three were premature from two to four months, and would hardly have been considered viable. One died from narcosis produced by heroic doses of morphine administered to the mother to control convulsions prior to operation. The other three evidently were overwhelmed by prolonged and often repeated convulsions in the mothers prior to operation.

End Results:—A great majority of these women belonging to what might be termed a floating population. I have been unable to keep track of all of those who lived. Sterilization by ligation and resection of the Fallopian Tubes was done on two, at the time of operation, and one was a Porro, so that three were eliminated from the child-bearing class. Five have, since the Caesarean, given birth spontaneously to living children. One was operated by Caesarean section by another surgeon for puerperal eclampsia at a subsequent pregnancy, the child being found to have been dead for some days. One died from ruptured uterus in the eighth month of a subsequent prepnancy. She might have been saved had a surgeon been accessible.

Recapitulation:—Twenty-five Caesarean sections done for nearly every indication to which the operation could be applied.

The total maternal mortality was 20 per cent—all deaths save two being due to a fatal uremia existing prior to operation.

The total child mortality was about 50 per cent, 12½ per cent of which children were not viable at the time of birth.

To record a maternal mortality of twenty

per cent and foetal mortality of fifty per cent for a series of twenty-five Caesarean sections would not at first give a suggestion of extensive usefulness or even comparative safety for the operation, but to analyze this series of cases and see that all of this maternal mortality except one case was due to a fatal malady for which the operation was powerless to furnish relief, we would see also that the operation is capable of great good and that from a life and death standpoint only, more lives would be saved were it done ofterner. Of course, cervical and perineal tesrs and destruction of the pelvic floor are eliminated by its use, and the danger to babies fully matured and normal is negligible.

The operation itself has been subjected to marked changes, which are too extensive for discussion in this paper, suffice it to say that all surgeons now agree to some style of transperitoneal operation, the extra-peritoneal being too tedious and difficult for the benefits it affords, while the vaginal Caesarean section in the presence of a living and viable child is considered surgical gymnastics, devoid of value, and extremely dangerous.

Read before Eighth District Medical Meeting. Watkinsville, Ga., August 13, 1919.

TRANS-CHOROIDAL THERAPY IN NEURO-SYPHILIS: PRELIMINARY REPORT.

By
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I have under treatment a series of patients with syphilis of the central nervous system, in which I am using the following method:

A lumbar puncture is made and after withdrawing 30 c. c. of spinal fluid, 30 c. c. of normal horse serum containing 1/50 gr. of bichloride of mercury (as prepared by the leading drug manufacturers) are injected into the spinal canal by means of the gravity method. The foot of the bed is now elevated 18 in. for half hour. Immediately following the intra-spinal injection, 0.4 to 0.6 Gram of diarsenol (or similar product) is given intravenously, according to the usual technique. During the following twenty-four hours when there may be more or less reaction the patient is kept comfortable with hypodermic injections of morphia. The treatment is repeated at intervals of two weeks until a series of four treatments has been given. The patient is then given potassium iodide in increasing doses and mercury, either by mouth, by inunction or hypodermically, for a period of four to six weeks, when a second series of the combined intra-spinal and intravenous treatments is given. This schedule is continued until the spinal fluid examinations convince one that no further treatment is advisable or necessary. Before each treatment the urine is examined, and the spinal fluid withdrawn at puncture is sent to the laboratory for cell count, globulin content and Wassermann reaction.

The results so far seem to justify the opinion that this method is an improvement over the various measures usually employed in the treatment of this class of patients; namely, the Swift-Ellis, the Ogilvie, the intraspinal injections or mercurialized serum, and the method advocated by Barbat of draining the spinal canal after the intravenous administration of salvarsan or similar products.

Full data of these cases will be given in a subsequent report.

The object of the various measures employed in the treatment of syphilis of the central nervous system is to obtain, by the safest method, the maximum amount of arsenic and mercury in the cerebro-spinal fluid.

It is generally conceded that the cerebro-spinal fluid comes largely from the choroid plexus, either as a secretion (Pettit and Girard, Goldmann, Frazier, and others), or as an ultrafiltrate of the blood (McClendon), and to a lesser degree from the perivascular system of the nervous structures (Weed, Plant, Rehm, and Schottmueller and others).

That the choroid plexus under ordinary circumstances is fairly impermeable and therefore prevents the entrance into the cerebro-spinal fluid of various substances injected into the circulation, has also been satisfactorily proven (Goldmann). This impermeability is particularly true with regard to mercury and arsenic. Only a few observers have been

able to recover arsenic in the spinal fluid after its intravenous injection, and never after oral or intra-muscular administration. No report can be found where mercury has been demonstrated in the spinal fluid unless injected directly into the spinal canal. According to Catton, iodine has never been found, even when given in massive doses. In a small percentage of cases in which 0.6 Gram salvarsan has been given intravenously traces of arsenic have been found in the spinal fluid (Camp, Ravout, Benedict).

The question which presents itself is this: Can the choroid plexus be rendered temporarily permeable to arsenic? If such is possible, and within the range of safety, then by giving arsenic intravenously an appreciable amount should go over to the cerebrospinal fluid. Barbat claims that by draining the spinal canal immediately after the administration of salvarsan, the lowering of the spinal fluid pressure below the pressure of the blood in the venous sinuses will cause arsenic to go over into the cerebro-spinal spaces. In his series of cases thus treated and in which the spinal fluid was examined, 31 per cent were arsenic free, 27 per cent showed a trace, while 42 per cent gave an average of 0.2 part per million.

It has been shown that the injection of serum into the spinal canal produces an increase in cell count (Netter and Gendron). An irritation of the meninges with either serum or chemicals should and does increase the permeability of the choroid plexus (Vitton). As a matter of fact Sicard at the very beginning of salvarsan therapy made a practice of injecting intraspinally weak salts of mercury, at the same time mercurializing or salvarsanizing the patient. His results were not inferior to those obtained with the use of salvarsanized serum, in the hands of more recent observers.

Under normal circumstances the choroid plexus on account of its impermeability is supposed to protect the nervous system against infection. An experience during the recent war, however, led me to believe that the intraspinal injection of serum rendered the choroid plexus permeable to micro-organisms. A soldier with a wound in which streptococci were demonstrated developed a late tetanus. The symptoms of tetanus disappeared after repeated intraspinal injections of anti-tetanic serum, but the patient developed a streptococcic meningitis, the organisms in the spinal fluid being apparently of the same strain as those recovered from the wound.

The argument may be advanced that the use of salvarsanized serum intraspinally according to the technique of Swift and Ellis not only gives arsenic directly to the cerebrospinal fluid, but also promotes its passage into the fluid from the blood. Sachs, Strauss and Koliski have shown that up to 45 minutes after the administration of 0.6 Gram salvarsan intravenously, only from 0.00004 to 0.0001 Gram of metallic arsenic could be detected in 20 c. c. of whole blood; and that after 45 minutes no free arsenic could be demonstrated. It can thus be seen that a very infinitesimal amount of arsenic is injected directly into the spinal canal when this method is used. Further, as the salvarsanize dserum is not injected for several hours after the intravenous administration, by the time the serum renders the meninges and choroid plexus permeable to the arsenic, there is no free arsenic in the circulation to go over into the cerebo-spinal fluid.

All these considerations forced upon me the logic of combining the intraspinal injection of mercurialized serum with the intra venous administration of salvarsan. Already clinical and serologieal findings in patients so treated appear to be much better than those obtained in patients treated according to other methods. These results will be reported when enough time has elapsed to show definitely whether or not the method is really an advance over other usages.

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EARLY DIAGNOSIS AND TREATMENT OF CANCER.

By M. B. Hutchins, M. D.

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The greatest obstacle in the way of education directed to the prevention and cure of cancer is not the mind and conduct of intelligent and honest physicians but the folly and unreason of people. Propaganda as attempted in papers of this kind, however, must eventually bring even to the stupid and incredulous some gleams of sense, less self-satisfied ignorance. "Early" as applied to cancer does not mean in measure of time but in the life of the disease, one case may have become incurable after a few weeks, another still may be curable after the lapse of years. The type and nature of the growth as well as the physiological state of the patient, the more vigorus and healthy, often the younger the patient, the more urgent are prompt diagnosis and radical treatment, but we can't afford to take chances on any type or state. Cancer never was nor will be a "blood disease," is absolutely as local at first as would be a piece of brittle, splintered, soft stone inserted into the tissues. It is primarily a growth, a tumor, uncontrolled multiplication of cells, with seepage into crevices of normal structures, crowding them out, obliterating, choking, many finally breaking down, ulcerating, sloughing,—others destroying life by overwhelming vital structures. Innocent tumors have a definite border or limiting wall. No kind of cancer except certain cystic forms has. Infiltration of cells projects like gravel embedded among the roots of a tree. "Roots" of cancer, I am reminded to state, as so glibly exploited by quacks and other ignorant people, are actually the resisting normal tissues becoming more fibrous, Nature's bars of defense, while among and between them cancer cells fight for mastery.

Though I believe the gentlemen of this Association know more about cancer than they think they do, I shall take the privilege of a specialist and try to elucidate some points in diagnosis of malignant lesions and tumors affecting different organs and tissues. Pain is usually a late symptom in cancer and absolutely of no diagnostic value. Because of exposure, cancer of the skin, epithelioma, is most frequent on the face, ears, neck, hands and lips. While certain epitheliomas are recognizable in their incipience, others first suggest malignance through chronicity. There are two rather distinct forms, (1) the flat, "squamous," (2) the rounded, more infiltrated, "basal" type. The former is rare above the level of the mouth; the latter is the common type above this line. Squamous celled epithelioma is almost certain to produce metastasis to glands; the basal celled type remains local in nearly all cases, but may become widely destructive. While the disease may occur even in the second decade

of life, epithelioma and all carcinomata are more to be expected after 40. If a patient presents on the skin an old, hard, horny, crusted lesion that begins to show irregular thickening beneath the crust, fissuring or ulceration, tending to recur even if temporarily healed, but always the thickening, usually easily broken, the suspicion ofmalignance is justified. On the carmine border, particularly of the lower lip, there may occur a fever blister-like, presistent erosion, with slight thickening, no tendency to healing. A simple ulcer of the skin or lip will not show infiltration of its floor or a rounded, raised, brittle edge.

The basal form, common above the line of the mouth (I have also operated on a number on the external genitals following vulvar leukoplakia) appears as a rounded, pink-waxy, semi-translucent growth, often with fine blood-vessels on its surface. Sooner or later the lesion breaks, ulceration and growth proceed rapidly, constituting the rodent ulcer form of cancer. Usually following repeated injury, certain colorless moles, or the brownish, or bluish black type, begin to grow, show evidence of malignant change, and the darker form has the capacity of extensive metastasis. Cancer of the tongue generally begins on the side in its posterior half, an old leukoplakia, tooth injury or fissure, or in a syphilitic gumma. Jaw cases frequently originate in bad teeth roots. There is always increase of cell growth before ulceration.

All cases of cancer, or epithelioma, of the penis that I have seen began beneath a long and usually phymotic, filthy, prepuce, finally a granular, firm ulcer develops with early lymph node metastasis. Epithelioma of the vulva is usually of berry-like granular or mushroom form, rarely metastasizes and has its origin in those white rubber-like patches known as leukoplakia.

Cancer of the uterus occurring most frequently in the menopause period, may be thought, with its serous or bloody discharge, a normal state, but any case of persistent discharge should be searched for fissures or growth or erosions—often in connection with old cervical lacerations. There are many types of tumor of the breast, but practically all tend to ultimate malignance. Any over-growth or mass that is ill-defined, and if near the skin adherent to it, any irregularity in the gland structure should arouse suspicion. Involvement of even one lymph node under the edge of the pectoralis major, anterior axillary border, points almost certainly to carcinoma. Retraction of the nipple is a common incident as the disease extends.

Always in examination of a suspected breast the other must be studied for control or comparison.

Cancer of the lung has some of the features of tuberculosis, minus the bacilli.

Malignant disease in the stomach or intestines, with its resultant digestive disturbances, is rarely discovered early enough and requires the employment of expert knowledge and technique.

The sarcomas are in a class to themselves, are more frequent in childhood and youth, tumor growths with great blood supply, often pigmented, metastasizing through the blood stream, rarely ulcerating, but often, in advanced stages, undergoing partial softening and liquefaction. Sarcoma is less frequent than carcinoma, and may involve the skin, mouth, breast, uterus, more usual in the eye, lymph nodes, large glands, muscles, bones, undescended testicles, etc.

We have in our control sufficient means for the cure of all cancer which can be reached early enough in its existence. Treatment must be radical and thorough, stimulating or irritating applications,repeated manipulations and semi-operative measures must be avoided. All epitheliomas can, in their youth, be cured with caustic potash, radium, X-Rays, excision or cautery, if properly employed. There is no excuse for the use of pastes and plasters—which commonly have as their active ingredient chloride of zinc, sometimes arsenic, and the same results could be obtained much more quickly and therefore less painfully, with the end of a red hot poker. Purely localised disease may be treated according to convenience or situation, all cancers likely to have involved the lymph nodes must be subjected to opera-

tion as must all growths too large for local applications. Breast, jaws, advanced tongue disease, buccal cavity, stomach, intestines, uterus, penis, demand surgery primarily, even though adjuvant treatment shall be necessary.

There is no internal, hypodermic, nor intravenous treatment for cancer. Tonics and "building up" are not indicated because vigorous people are the kind most likely to development of malignant growths, the more robust in health, the younger in years succumbing more rapidly than persons of ill health, anemia, poor circulation. I have seen a lower lip case become hopeless in a comparatively young man, after six months, this condition, however, partly due to the frequent application of nitrate of silver, and I have now a woman patient, anemic, pallid, long an invalid, with a still curable epithelioma of the temple, which began 17 years ago and has had much treatment with tincture of Iodine.*

Summarizing briefly, cancer is not a blood disease, but a local growth. All chronic, persistent, localised, usually single, cracked, crusted lesions of the skin, of little shiny, waxy growths constantly enlarging, should arouse suspicion of epithelioma. A crack or ulcer on the tongue with hard edges, a granular thickening with or without ulceration inside the cheek, on the palate region, a growing, firm mass in the region of tooth roots, a chronically crusting or an obstinate sore on the lip border, should suggest malignance. Subpreputial or vulvar lesions, as described, belong to this class. Any tumor of the breast requires careful study and proper treatment, as do uterine cervical lesions with their resultant discharge. A train of digestive symptoms, not accountable for under medical diagnostic conculsions should lead to the employment of X-Ray plates and other methods.

Tumors of various kinds require careful differentiation to disclose their innocent or malignant character.

Pain or its absence is of no value in the diagnosis of cancer, in fact when it becomes marked the case is usually beyond cure.

*Case cured with radium.

We are able to cure cancer discovered early in its life if we have the will, accessibility, of course, being essential. Medical treatment is of no value; the ability to be through in its destruction or disease requires active, personal management by a physician. Patients can not treat themselves, friends are incompetent to advise, and cancer quacks should be avoided, even if they do apparently cure some cases, for at least the one good reason that they are ignorant of the nature of cancer, and often assure patients they are cured when the disease is virulently active.

A DISCUSSION OF APPENDICITIS.

By L. C. Fischer, M. D., Atlanta, Ga.

Were I attempting to select the most important surgical condition that I am familiar with to write upon, and the one affecting the internal medical man or general practitioner, equally with the surgeon, with the responsibility if possible more upon the medical man, I should select the acute abdomen —the right side of this especially, and appendicitis as being the one most important factor producing the condition. Recently, while operating upon a patient with rather an obscure diagnosis, which proved to be an infected gall bladder and appendix, Dr. Howard Perkinson, of Marietta, who was present, and who had referred the case, and who is recognized as one of the leading general practitioners of Georgia, said, "There are few conditions in the abdomen of the child or adult, where great pain is produced, that are not surgical, and I have almost excluded all conditions except the gall bladder, the appendix, and duodenum as being capable of producing very severe pain, unless it be an intestinal obstruction; I believe many patients have lost their lives on account of a diagnosis of cramp colic."

The acute abdomen is the one condition which we meet oftenest, and one which if proper diagnosis is made, and treatment given, means the most satisfaction to the surgeon, the physician, and the greatest relief to the patient. The condition presents

an opportunity to save many lives that would otherwise be lost, and prove an ever present monument to delay.

On a recent visit to Philadelphia I heard Dr. John B. Deaver say, "The more I see of appendicitis, the less I know about it." This remark was occasioned by the complicated symptoms incident to many cases, and especially the one before him at that time. He had opened the abdomen for a condition diagnosed as acute gall bladder. This organ was found to be normal, but the appendix was acutely inflammed, and located high up in the region under the lower portion of the liver.

The diagnosis of appendicitis in many cases is simple, and is often made by the patients, or their friends, and correctly so, before the physician arrives. Many times in the last few years, I have been called and told that a patient had appendicitis, but they wished to be examined before going into the hospital for operation. It is true that in many cases of appendicitis the diagnosis is simple, and very seldom confusing, but when we consider the number of diseases of the organs in the right side, and their complications, we are reminded that we must constantly be on guard to differentiate the many pathological conditions that exist in this area. It requires our greatest diagnostic ability, and much thought, to be able to differentiate between some cases of appendicitis, gall bladder disease, duodenal ulcer, diseases of the right kidney and its dreter, and in females diseases of the right tube and ovary. I know of no one symptom that we can pi nour faith to, to be positive of appendicitis, and no chain of symptoms, until all other conditions that might arise in the right side are eliminated.

Dr. Robert T. Morris, of New York, has many times described points of tenderness in the abdomen that exist with appendicitis, and especially the chronic form, that are not to be found in othe rconditions. These have not always proven true in my work, but have often been helpful in diagnosis. One point point that he describes, especially, two inches to the right of the umbilicus, and one inch below, as being pathognomonic of chronic appendicitis, proves true in many instances. Pressure over the left side in the same area in appendicitis will in most cases produce pain in the appendix, which radiates upwards, and usually to the right of the hypochondriac region. These radiating pains are, of course, produced by pressure on the sympathetic nerves. I have found also that pressure over these same areas produce pain in many instances in pelvic disorders of women, which are referred to the opposite side. As a rule, however, the pain is radiated into the pelvis rather than into the right iliac fossa or gall bladder region. Three times recently I have operated for stones in the right kidney, where the appendix had a short time before been removed. In each of these cases the patients claimed that they were not relieved of pain following the appendectomy, even while in the hospital, and that they had called the surgeon's attention to it. The surgeon, however, had felt that they were suffering from gas pains, possibly due to recent adhesions. One would not dare say that these cases did not have appendicitis at time of operation, as I am sure an acute appendix could give many of the symptoms of a renal stone. At the same time there is ground for doubt, especially so when the patients were not the least relieved after operation, an dcontinued to suffer even while in the hospital.

In all cases where there is a doubt as to a positive diagnosis between the appendix, the gall bladder, and a renal stone, the x-ray in the large majority of instances will help us. I feel that we are inexcusable, where we have the facilities, for not taking advantage of this very valuable assistance in diagnosis. The blood picture will help us materially. While this would not aid in a differentiation of any acute inflammatory condition of the abdomen, as they all produce a leukocytosis, coupled with other symptoms of appendicitis, it is often a safe index to go by. This, however, has its variations in practically the same pathological condition. I have seen cases of typhoid fever mistaken for appendicitis. The blood picture will help here, as typhoid seldom produces leukocytosis, especially early in the disease. It

will also help to eliminate the possibility of a renal or ureteral stone or a kinked ureter, as the blood is not affected by these unless inflammatory. While the blood picture in all pathological conditions is important, it only goes to show in the majority of cases the amount of inflammation present, the presence or absence of pus, and the effort on the part of nature to ovrcome the pathology.

The changes in the blood that we expect in inflammations and especially in the acute abdomen, are the increase in leukocytes, with a like increase in polymorphonuclears. It has been my experience that the greater the increase of leukocytes up t oa certain stage, means a greater resistance for the patient. In all cases where the leukocytes have not increased, but the polymorphonuclears have, showing the presence of pus, it has been my experience that the resistance of the patient is very much lowered. In leukopenia, however, where the polymorphonuclears have increase dwith the inflammation, these patients have not always proven to have a lowered resistance; but with leukopenia and the absence of an increase in these blood cells, I have found resistance is practically always lessened.

I often fear that in our scientific teachings and examinations in the present day, we may go too far and depend more on the pathologist and laboratory than we should, and not rely enough upon the cardinal symptoms that experience has taught us to recognize. Twice in the present year have I been delayed, waiting for the internest to convince himself by the development of a leukocytosis, that operation was advisable. Finally, without leukocytosis developing to any marked degree, he gave his consent for operation. In both cases a gangrenous appendix was found with free pus in the abdomen. This recalls a remark that I recently heard at the New York Polyclinic, and one that I could not agree with, "The blood picture in appendicitis is without exception the same, and can under all circumstances be relied upon. Any patient with a leukocyte count below 12,000, with 68 to 72 per cent. polys, is practically normal. Where an increase of leukocytes with a like increase of polys has taken place, the case can always be recognized as showing the presence or absence of pus according to the degree of increase. The surgeon should not operate unless the blood picture agrees with this." This has not always been my experience. In some of the most severe cases, upon which I have operated, there has been a decided leukopenia. I do, to a limited extent, depend upon the blood picture, but I rely more upon the condition of the patient, and upon twenty years of experience in deciding whether or not an operation should be immediate or if it may be delayed. Far be it from me to discredit the blood picture, but three recent cases will show the blood conditions that existed with the pathology being almost the same. The first case, Mr. K., referred by Dr. Geo. M. Niles, of Atlanta, had been sick twenty-four hours, with an acute exacerbation, of what his doctor in Knoxville had been unable to decide was gall bladder disease or appendicitis. Dr. Niles had diagnosed appendicitis. The blood showed leukocytes 28,500, polys 85 per cent. At the time of operation the abdomen was full of free fluid, seropurulent, the appendix was very large, 4½ inches in length, gengrenous in its entire length. The second case was Mrs. M., referred by Dr. J. L. Dixon, of Woodbury. This was one of several attacks she had had in the last few years. She had been sick for forty-eight hours at the time she was admitted to the sanatorium, with a diagnosis by Dr. Dixon of acute appendicitis. Temperature 99½, pulse 120, respiration 18. The leukocyte count was 9,000, polys 78 per cent. At operation found the appendix gangrenous and ruptured, abdomen full of free pus. The third, Mr. P., referred by Dr. Howard Perkinson, of Marietta. Temperature normal, pulse 120, respiration 20, the abdomen slightly distended, pain on pressure all over the abdomen, the most pronounced in the right iliac fossa, a leukocyte count of 6,000, polys 60 per cent., operation immediately. The appendix was gangrenous, as was a portion of the cecum, the abdomen was full of pus, with a beginning general peritonitis. All

three cases were operated upon immediately, or as soon as preparation could be made, drainage instituted, with extreme Fowler's position. All cases recovered. I do not attribute the recovery of these cases to any unusual care on my part, other than prompt operation and the extreme Fowler's position, for from forty-eight to seventy-two hours, with free drainage. The blood picture in these three cases is entirely different, and had we relied too much upon it, we could have been very seriously misled.

Not all cases of appendicitis are typical, nor do they agree with the pictures that we find in books. They may or may not follow an attack of acute indigestion. The dis ease is not confined to any age or sex. The large majority of my work, however, has been in adults, with a good many children. The majority of the patients were under 40 years of age. The oldest case operated upon with acute gangrenous appendix, that I recall, was 67. Most acute attacks are sudden in their onset, usually with intense pain in the epigastrium, which radiates all over the abdomen. The pain is severe, griping in character. I am not sure but that this is often described as "cramp colic." Soon the pain is located in the right iliac fossa, followed by tenderness on pressure over McBurney's point. The muscles over the right side become tense and produce a spasmodic contraction if palpated. Muscular rigidity with pain I think are the two most constant symptoms. The rigidity varies with the temperament of the patient. Nausea and vomiting are most always prominent symptoms, though some of the most severe cases do not vomit. The patient if in bed usually lies with the right thigh flexed. He complains of intense paid if forced to straighten it. The pulse and temperature are not greatly disturbed at first, but soon rise to temperature of 100 to 104, pulse verying with temperature, affected some by excitement. Most of the laity now suspect appendicitis with such symptoms, and the patient is often very nervous. There is usually an anxious expression on the face and frequently the patient looks sick. It is at this stage that often the greatest harm is done the patient by giving hypodermics of morphine, or some form of opium, followed by a cathartic. This so completely masks the symptoms that it is impossible to know the progress, or any serious changes in the patient. One of the most serious symptoms at this stage is the sudden relief of pain, with lowering of temperature below normal, the pulse being accelerated. This nearly always indicates gangrene, or rupture, often both.

I cannot think of any kind of acute appendicitis where medical treatment is advised, if the patient is seen early. There are, however, some conditions of the patient, such as heart complications, acute affections of the lungs, serious kidney lesions, or where the patient is not seen early, and the disease has existed so long that there is a general peritonitis, where operation may be deferred. The laity to a great extent are educated to know that appendicitis is a serious condition, and most always surgical. In a large majority of cases they are not only willing, but anxious to be operated upon.

In many cases of heart, lung and kidney complications, a local anesthetic can be used to advantage. Many times have I so operated, using a modified twilight sleep, and one per cent. solution of novocain, without any undue shock. Nausea is much lessened, an doften entirely absent. Shock is not so pronounced, and the convalescence period is shorter.

Where general peritonitis ha sdeveloped, the treatment as recommended by our lamented John B. Murphey should in all cases be followed. This consists of proctoclysis by the drop method, the application of ice bags to the abdomen, nothing by mouth except water or iec, and if feeding is necessary, by rectum. The free use of morphine or opiates to lessen peristalsis is advised. Excluding the above conditions, it is my constant advice that all cases of appendicitis be operated upon when diagnosis is made. The sooner that all of us can realize that there is no medical treatment for appendicitis, that agents to relieve pain only complicate a diagnosis, and that catharties only increase the danger of rupture, the sooner will we have fewer cases of ruptured and

gangrenous appendices with abscess, local or general peritonitis. Recently I was called to the mountains of north Georgia to see a paient with an appendiceal abscess. His doctor claimed that with salicylic acid or sodium salicylate, he had been able to cure all cases of appendicitis, except the one I was calle dto see. This young man with a large abscess and mild general peritonitis had been sick for three weeks. Draining the abscess, leaving in two large drainage tubes and the patient placed in extreme Fowler's position, resulted in the patient's recovery, and the conversion of the doctor to the idea that surgery is the proper procedure in appendicitis.

The operation for appendicitis is so commonplace, that I do not feel any discussion of it is necessary, but I do wish to stress the importance of not breaking an abscess wall, when we are operating for an abscess. It is the desire of all surgeons to do ideal surgery, but I believe it is poor surgery to continue to search for the appendix after the abscess is opened, and where it is localized or walled off. I recall only two cases where I have done a secondary operation to remove an appendix following drainage of abscess. It is th egeneral opinion that where such a great quantity of inflammation has existed and an abscess drained, that the appendix has sloughed, and is absorbed or atrophied with the recovery of the patient.

My one excuse for writing on a subject that has been so thoroughly discussed for years, it is to try to improve our statistics, as well as the condition of the patients when they arrive for operation; also to impress upon the general practitioner and surgeon, the importance of early diagnosis and operation, or as early as is consistent with the conditions, and not to run the risk of a possible recovery from this attack, by the administration of opiates, cathartics, painting the abdomen with iodine, blistering with mustard or poulticing.

I cannot see that in my work in the last few years the percentage of gangrenous appendices with rupture, and in many instances general peritonitis, is markedly decreased. I have kept careful records for the last few years. Upon referring to these, it is disappointing to find that there is little change for the better in the condition of the patients when they arrive for operation, or when first seen by me. In the last 100 cases operated upon, there were 45 of acute, 15 suppurating, or gangrenous with abscess, and 40 chronic, with two deaths from general peritonitis in the suppurating cases. In the 100 cases preceding these there were 12 suppurating or gangrenous, 30 chronic or subacute, 58 acute, with two deaths in the suppurating cases. In 100 cases preceding these, there were 20 cases suppurating, 30 chronic or subacute, and 50 acute, with three deaths from general peritonitis in the suppurating type. There has not been a death in any of these series in the acute, subacute or chronic cases. Our mortality in this work will not run above one-fourth of one per cent. In suppurating, gangrenous or abscessed cases the mortality runs much higher. In many reports in public hospitals the mortality is from 5 to 10 per cent. I think that in a private institution that the cause of less mortality is due to more careful nursing. and more attention to the individual patient, which cannot be obtained in a larger hospital.

It has been my rule for years to remove the appendix in all cases where the abdomen was opened for other causes, unless it was that the condition of the patient could not stand for the extra time that would be consumed. I have reopened the abdomen not less than ten times in th elast three years to remove the appendix, where it had been left, by me, or some other operctor, when the abdomen had been opened for other causes.

One of our most important functions is the conservation of our patient's time, as well as of their lives. With a chronic, subacute or acute appendix removed, before suppuration or peritonitis is present, the usual time to be confined to the hospital is from ten days to two weeks, according to the patient's general condition. Where operation has been delayed until the appendix becomes gangrenous, ruptured and an abscess has formed, with possible general peritonitis, the confinement is indefinite, varying from

three to ten weeks. I feel, therefore, that it behooves us to come to a more definite and final agreement, as to the action upon the part of all of us, and a final decision that the treatment in practically every case of appendicitis is surgieal; and that appendicitis should be operated upon as promptly as possible, within the first twelve to twenty-four hours or as soon a scireumstanees will allow.

25 E. Linden Street.

GASTRIC COMPLICATIONS OF VASCULAR HYPERTENTION.

By Glenville Giddings, M. D.

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This report is based on the study of 43 cases of vascular hypertention, 18 of which presented symptoms referable to the gastro-intestinal tract. That such a large per cent of cases showed gastric symptoms is striking, espceially in that text books and current literature devote only a few casual remarks to the gastric manifestations of arteriosclerosis. It is not the purpose of this report to deal with those cases of arteriosclerosis showing periodic attacks of acute abdominal distress commonly known as abdominal angina. Nor is it intended to show that cases reported are true uleer of the stomach or duodenum but rather that they are fundimentally gastric-neuroses the etiology of which is vascular hyperpiesis.

Virchow as early as 1853 described relationship between local vascular changes and ulcer of the stomaeh. Kelly, in dealing with this subjeet states that, "Gastro-intestinal symptoms, that is so-called "indigestion," but also some cases of gastric ulcer, are sometimes attributed to special arteriosclerotie involvement of the supplying vessels. Special interests attaches to attaeks of severe abdominal pain (adbominal angina) that eomes on several hours after eating and may be associated with other anginoid phenomena such as angina pectoris; they are attributed to spasm of the gastric and mesenteric vessels." Osler, mentions that gastric ulcer has been noted as occuring with general arteriosclerosis but devotes little space to describing the frequecy or the symptomatology of the condition. Edwards, ranks gastro-intestinal symptoms as sixth in the order of arteriosclerotic symptoms in his experience.

Allbut & Rolleston describe "Psuedo-gastric pain, consisting of deep seated pain of variable character, below the umbilicus, occuring in crises of a few minutes to an hour or more, often repeated and accompanied sometimes by vomiting and often by distention have been noted in adbominal aortitis. The attacks are not related to the taking of food except it be indigestible or exeessive in quantity. French states that, "A gastro-intestinal type of arteriosclerosis may also be recognized in which the selerotic changes in the vessels of the stomach and assoeiated glands especially the liver and pancreas interfere with digestion and the metabolic proeesses of digestion."

Ophuls more recently has undertaken a study of gastric lesions in arteriosclerosis but purely from a pathologieal point of view. He eoneludes that the most common type of gastric or duodenal ulcer at least in material obtained at autopsy, is the arteriosclerotie uleer in persons over thirty years of age. He further states that there is a second class of ulcer, gastric or duodenal, in the young, whieh is probably due to local endarteritis (thromboarteritis).

From the histories and physical examinations of the cases on which this report is based, it is my belief that the symptoms are not the result of gastric or duodenal ulcer but rather are true gastric neuroses. No case presented a history of definite hemetemesis or melena. The pain as described was never intense or accompanied by persistent nausea. Vomiting was never a pronounced symptom. Fasting contents were invariably normal in amount.

Practically all cases showed a normal gastric motility. All gastric analysis in which the free acidity was over 60 acidity per cent was considered a hyperacidity if

the patient presented symptoms referable to the gastro-intestinal tract. An interesting feature was that all cases without exception showed a hyperchlordria.

Symptomatically the patient attributed all his trouble to his stomach. Indeed it was sometimes difficult to impress upon the individual that he had a serious underlying condition. In order of frequency the patients complained of (1) fullness in upper abdomen, (2) sour gaseous eructations, (3) pain in epigastrium appearing at variable times after eating. The general nervous status of the patient was a common feature. This was frequently sufficiently marked for sleeplessness to be a repeated complaint.

It is my belief that this gastric dysfunction is entirely dependant on the sclerosis of the supplying vessles of the stomach. We recognize, for instance, a certain syndrome of symptoms as being indicative of cerebral arteriosclerosis. Likewise with sclerosis of the vessles of the lower extremities is produced that condition which we term 'intermittent claudication.' With the last named condition the blood supply of the leg, which was sufficient for the needs of the leg when at rest, became insufficient during exercises. the deficient circulation resulting in pain. The pain resulting from sclerosis or obstruction of the coronary arteries might also be mentioned as the commonly accepted theory of angina pectoris. I only mention these to bring out the fact that the supplying vessels of the stomach show a similar sclerosis, the result being not only a deficient blood supply to that organ but a deficient digestive activity.

In those individuals advancing in years who complain chiefly of sour stomach, flatulance and epigastric distress but who on further questioning admit of mild nycturia, moderate dyspnea on exertion, a careful cardiovascular examination will generally reveal the underlying condition. Physically we are apt to find moderate left ventricular hypertrophy, with or without an associated apical systolic murmur. As a rule the aortic second sound is accentuated. Pulsation in the episternal notch is common and frequently complained of by the patient. Precordial distress is often mentioned generally appearing after exertion or dietary indiscretions. Urinalyses as a rule show the classical findings of chronic interstitial nephritis-polyuria, low specific gravity with a tendency toward fixation, albumin appearing in very faint traces or negative, microscopically a few hyaline or granular casts. Phenolsulpho nephthaloin excretion diminished.

From a therapeutic standpoint, with appropriate treatment directed toward correcting the existing hyperacidity and the underlying arteriosclerosis, symptomatically the patient is much improved. Procedure, however, varies with the acuteness of the symptoms. With marked hypertention and severe associated gastric symptoms the cases are advised to enter an institution, kept in bed and put on a modified Karrell diet. Instead of the usual Karrell diet of eight hundred cubic centimeters of skimmed milk the patient is allowed up to two liters of whole milk. No other food is given for four days. The patient is then allowed cereals, toast, eggs ,chicken and other light articles until by the tenth day he is back on a fairly liberal diet. He is warned, however, to omit permanently excessive sweets and indigestible vegetables ,and is cautined against eating too frequently beef and pork. Thorough catharsis is administered every fourth night for the first two weeks. If the blood pressure does not fall a reasonable degree within the first ten days, the nitrites may be administered or in selected cases digitalis is often of value.

An alkaline powder consisting of calcined magnesia, sodium bicarbonate and rhubarb are given in doses up to one hundred and eighty grains a day and is kept up for a prolonged period of time, frequently for several months. It is best given as near one hour after eating as possible to neutralize the hyperacidity resultant from the digestion of food. For the general nervousness and anxiety which these cases manifest bromide is advisable. Strontium brimide is preferable as it has been found to produce less gastric irritation and to be better borne over a prolonged period of time. Twenty

grains given night and morning is sufficient as a rule to produce the desired effect.

The following brief protocols will serve as illustrations of the cases in point:

Case 1. History.

W. A. Mrs. Age 41. Housewife.

C. C. "Heartburn."

F. H. Father died of apoplexy. Mother died with heart disease and arteriosclerosis. Otherwise no facts of importance.

P. H. Patient states that she has always been well. She had usual diseases of childhood without complications or sequellae. One child alive and well. No history of miscarriages. Average weight 112 pounds.

P. I. For a number of years the patient says that she has noted heartburn after eating coming on from a half to one hour after meals. Appetite fair. She has an occasional attack of epigastric distress and is usually constipated. Denies genito urinary symptoms. Menses regular and normal. No cardio-pulmonary symptoms. She states that she has frequent attacks of severe frontal headaches lasting several days. No history of nausea or vomiting. Denies melenae and hemetemesis.

Physical Examination.

Fairly well nourished and developed woman. Weight, 114 pounds.

Head: Negative except for marked periorbital edema.

Neck: Negative. No thyroid enlargement.

Chest: Flat. No retraction. Lungs clear throughout. Heart: Moderate left ventricular hypertrophy. No murmurs or thrills. Aortic second sound accentuated. Heart sounds clear. Rate 80 per minute.

Abdomen: Flat and soft. No masses felt. Right kidney markedly ptosed. Liver, spleen and left kidney not felt. Slight epigastric tenderness. No rigidity.

Extremities: Upper-Normal. Triceps and wrist jerks present. Lower-Normal. Knee jerks and Archilles jerks present.

Pelvic: Negative.

Glands: Few small cervical and inquinal glands palpable. Epitrochlers and auxillary glands not felt.

Vessles: Apparent thickening of all superficial arteries.

Blood Pressure: Systolic 230. Diastolic 140 (Nicholson).

Urinalysis: 24 hour speciman. Color: Yellow. Transparency: Slightly cloudy. Reaction: Acid. Spec. Gravity: 1010. Albumin: Negative. Sugar: Negative. Microscopic: Numerous pus cells. No red blood cells or casts. Diacetic Acid: Negative.

Gastric Analysis (Ewald) Amount: 50 C.C.

Total Acidity—76 per cent.

Free Acidity—45 per cent.

Micro: Nothing abnormal noted.

Case 2. History.

B. N. Mrs. Age 44. Housewife.

C. C. "Indigestion and roaring in ears."

F. H. Father died at 72 years of "dropsy." Mother died at 66 years of bronchial trouble. One sister died of Brights disease and a second of typhoid fever. No history of tuberculosis, carcinoma, diabetes or insanity.

P. H. Denies any acute illness except usual diseases of childhood. No cardio-pulmonary or genito-urinary symptoms. Menses normal until the present illness. Have been irregular for the past few months. She has never had any children. No history of miscarriage.

P. I. Patient says that she had roaring in both ears for a number of years and has been very nervous. He appetite has been good but digestion very poor. She suffers constantly after eating with sour eructations and has heavy feeling in "pit of stomach." This feeling comes on from three quarters to an hour and a half after meals. No acute pain. No nausea or vomiting. Symptoms are relieved, so she says, by taking soda. some cardiac palpitation.

Physical Examination.

Well developed and nourished woman. Weight, 156 ½ pounds.

Head: Negative.

Neck: Negative. No thyroid enlargement.

Chest: Well formed. No retraction noted. Lungs clear throughout. Heart: Not en-

larged. No murmurs, thrills or accentuations.

Abdomen: Rounded and soft. No masses or tender points. Liver, spleen and kidneys not felt. No rigidity.

Extremities: Upper: Normal. Triceps and wrist perks present. Lower: Normal. Knee kicks and Archilles jerks present.

Pelvic: Normal.

Rectal: One external hemorrhoid.

Glands: No glandular enlargment.

Vessels: Pulse apparently high tension. Somewhat thickened.

Urinalysis: 24 hour speciman. Color: Amber. Transparency: Clear. Reaction: Acid. Spec. Gravity: 1010. Albumin: Negative. Sugar: Negative. Diacetic Acid: Negative. Microscopic. An occasional epithelial cell. No pus, casts, or red blood cells.

Gastric Analysis: (Ewald).

Amount: 40 C. C.

Total Acidity—108 per cent.

Free acidity—106 per cent.

Blood Pressure: Systolic 180—diastolic 110 (Nicholson).

Case 3. History.

W. J. W. Mrs. Age 44. Housewife.

C. C. "Weakness and sour stomach."

F. H. Negative for tuberculosis, careinoma, diabetes and insanity.

P. H. Patient states that she had typhoid fever at sixteen years of age. Had tonsillectomy five years ago. Lobar pneumonia three years ago. Had been subject to tonsillitis previous to operation. Three children alive and well. Two miscarriages. Otherwise negative.

P. I. For the past few months the patient says she has been feeling weak. Appetite and digestion both poor. Suffers frequently with a sour stomach and belches much gas. Bowels constipated. She has noted frequent headaches expecially in the morning and complains of pains in the back of her neck. She sleeps poorly and has some dyspnea on exertion. States that she has lost thirty pounds in the past six months. Menses regular and normal. Voids twice each night.

Physical Examination.

Well developed but rather thin woman. Weight, 121 pounds.

Head: Negative.

Neck: Negative. No thyroid enlargement.

Chest: Flat. No retraction. Lungs clear throughout. Heart: Moderate left ventricular hypertrophy. Aortic second sound accentuated. No murmurs, or thrills.

Abdomen: Linea striae present. Right kidney markedly ptosed. Left kidney spleen and liver not felt. No masses or tender points. No rigidity.

Extremities: Upper: Normal. Triceps and wrist jerks present. Lower: Normal. Knee kicks and Archilles jerks present.

Pelvic: Uterus retro-displaced. Cervix large and patulous.

Urinalysis: 24 hours specimen. Color: Straw. Transparency: Slightly cloudy. Reaction: Acid. Spec. Grav.: 1008. Albumin: Very faint trace. Sugar: Negative. Diacetic Acid: Negative. Microscopic: Few hyaline casts.

Phenolsulphonepthalein Test: 1st Hour, 30 per cent; 2nd Hour, 20 per cent; Total, 50 per cent.

Gastric Analysis (Ewald): Amount, 45 c.c.; Free Acidity, 64 per cent; Total Acidity, 90 per cent.

Blood Wassermann: Negative.

Case 4. History.

C. C. "Plain in epigastrium."

F. H. Negative as regards tuberculosis, carcinoma, diabetes. Usual diseases of childhood. No other serious illness. States that she had one miscarriage one year after marriage. Fourteen years ago had panhysterectomy for diseased adnexa. Pt. says that three years ago she had hemeturia but did not have urine examined at that time. Sleeps poorly. Admits having frequent headaches, more marked in the morning. Average weight, 100 pounds.

P. I. For the past three years the patient says her chief trouble has been with her digestion. She was put by her attending physician on a diet containing no vegetables. She obtained, however, no relief. She has nausea constantly but vomits very infrequently. Has never noted hemetemesis or melena. Nausea at times more marked after meals. Sour eructations have been a frequent occurance. Has been habitually con-

stipated for years. She further states that she has dyspnea on slight exertion, and has noted vertigo at times. She voids several times each associated frequently with dysuria.

Physical Examination.

Fairly well developed but undernourished woman. Appears markedly anemic.

Head: Negative.

Neck: Negative.

Chest: Flat. No retraction. Lungs clear throughout. Heart: Not enlarged. No murmurs or thrills. Aortic second sound slightly accentuated.

Abdomen: Flat and soft. Some general tenderness more marked over upper quadants. Liver, spleen and kidneys not felt.

Extremities: Upper: Normal. Triceps and wrist jerks hyperactive. Lower: Normal. Knee kicks and Archilles jerks hyperactive.

Pelvic: Uterus, tubes and ovaries not felt. Meatus uriniferous appears slightly inflammed.

Rectal: One hemorrhoidal tab.

Blood Pressure: Systolic 170. Diastolic 100.

Urinalysis: 24 hour speciman. Color: Yellow. Transparency: Slightly cloudy. Reaction: Acid. Spec. Gravity: 1010. Albumin: Negative. Sugar: Negative. Diacetic Acid: Heavy trace. Microscopic: No abnormal elements seen.

Blood Wassermann: Negative.

Blood Count: Moderate secondary anemia.

Gastric Analysis: (Ewald) Amount: 40 c.c. Free Acidity, 64 per cent; Total Acidity, 80 per cent; Micro, Negative.

Conclusions.

1. Gastric manifestations are not unusual in vascular hypertention.

2. Practically all cases show a hyperchloridia after an Ewald test breakfast.

3. These cases are believed to be true neuroses rather than gastric or duodenal ulcers.

4. Such cases are amenable to treatment but tend to recur.

5. The cases are more common in women especially in the years preceeding and following the climacteric.

Fractional gastric analyses are now being conducted on a series of cases which will be reported at a later date.

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REPORT OF A CASE OF INTESTINAL PARESIS FOLLOWING ABDOMINAL SECTION.

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Assistant Visiting Physician to the Anti-Tuberculosis Clinic.

The spontaneous re-establishment of peristalsis after three post-operative days of gut paralysis, following abdominal section, is the excuse for this report.

The reasons for operation, which were apparent, and the technique, which followed the customary procedure, will not be enumerated as practically all the interest in the case centers in the post-operative behavior of the patient.

Attention is especially invited to the seeming effect of the colonic irrigations when numerous other special methods had been employed to restore function and failed.

Whether this restoration was really spontaneous or due to this last measure we are unable to say, although it's use had barely been instituted when the desired result was obtained.

The severity of the shock attendant upon this lapse of function and the rapidity with which affairs became uneventful furnish a second interest in the case.

Miss D., age 52, single. Occupation, dress maker.

On July 19, 1919, the patient underwent the following operations:—Appendectomy; ventral fixation of the uterus and hemorrhoidectomy. There were no adhesions present.

Before the operation the patient was in a fair condition, showing a small amount of albumin, a few hyaline casts and some pus in the urine. The blood was normal as was the temperature. The pulse ranged around 80 to the minute.

After leaving the operating room the patient was slow to react but was in good condition. For the first nine post-operative days she did well|

On the ninth day, however, she had no bowel movement. Her condition was encouraging and she was without fever.

The next morning, tenth post-operative day, the nurse called me, saying the patient was not doing well. On reaching the hospital Ifound her in a state of shock. The pulse, which was 82 the night before, was now 120 and the temperature, which was normal the night before, was not 100.0 degrees. The wound was dressed and found to be clean; healing nicely and the stiches were removed. The abdomen was distended.

On the night of the ninth post-operative day she was given a laxative. During the tenth post-operative day, beginning in the morning, she had calomel, castor oil and salts without effect. She also had an alumn enema; an oil and glycerine enema, both of which were ineffectual. The abdomen was becoming more distended and the patient was gradually growing weaker. In the early evening she had pituitrin, and S.S. enema with spirits of utrpentine, and peristaltin, but the bowels did not move. The patient vomited two or three times during the day. This was not stercoraceous vomiting.

Dr. S. T. Barnett, of Atlanta, was called and it was decided that the abdomen should be reopened.

Her temperature was now 100.2 degrees and her pulse 128; poor volume. She was quickly prepared and sent to the operating room. When the abdomen was opened I found the intestine to be very much distended. There was no point of obstruction and no adhesions. There was no evidence of limitation or suppression of blood supply to any part. The abdomen was quickly closed by through and through sutures and the patient put back to bed.

She was slow to react. Her pulse ranging around 125 and her temperature around 100. degrees. The abdomen was still very much distended.

Following the second operation various methods were employed to re-establish peristalsis. The intestine, however, refused to respond.

At 10:30, the morning of the second day, following the second opening of the abdomen a continuous colonic irrigation of normal saline solution was begun. After three hours no results had been obtained. Dr. W. S. Goldsmith, of Atlanta, was called in consultation. At 3:10, while discussing the case with Dr. Goldsmith, prior to seeing the patient, the nurse informed me that the patient had had a good bowel movement. The irrigation was discontinued.

The pulse had now dropped from 128 to 120 and the volume was better. The bowels moved four times between 3:10 and 8 P. M. She was kept stimulated and almost immediately began to show improvement.

The abdomen continued slightly distended and she suffered from gas for a few days. However, the abdomen soon became relaxed, she began to have normal movements and made an uneventful recovery.

908 Candler Bldg.

STATE BOARD FIGURES SHOW CASES UNREPORTED.

From January 1st, 1919, to September 1st, 1919, 822 cases of typhoid fever have been reported to the State Board of Health, by the County Health Officers, and the physicians of the State. Do these figures in any way represent the true condition of affairs in the State? If so, the physicians are to be congratulated that so much good has resulted from improved sanitation and typhoid vaccinations. As this is the first year that diseases have been reported in the State, there is no record of previous years with which this

number can be compared. There are two methods which can be used, however, and both give a fairly definite rate of comparison. The first of these is to use the rate of the disease in other states where records are available, and the second is to use the death reports of this State. Obviously, if the figures of other states are to be used they must be ones in which conditions are very nearly the same as regards climate, population, sanitation, etc. Alabama, Mississippi and South Carolina are adjoining States, and are very similar with respect to the general heads given above. These states have required the reporting of the communicable diseases for some time and consequently figures are available for a period of years.

The monthly averages of cases reported during the years for which data is available, 1913-1917, are computed and from these figures the cases per 1,000 inhabitants are determined for the three States using the combined population as estimated on July 1, 1919. The results of these computations are shown in Table 1.

Table 2 shows the number of cases by months that have been reported in Georgia since January 1, 1919. It will be seen at once that the cases are surprisingly low when compared with those in Table 1. In order to get some idea of the number of cases of typhoid which have actually occurred in the State, the rates found in the other States selected for comparison have been applied to Georgia, using the population as estimated for July 1, 1919. The results are shown in Table 3. These figures are not given with the idea that they actually represent the true state of affairs, but to show that the cases reported cannot be anywhere near accurate for the State.

The deaths are reported to the State Board of Health up to June 1, 1919 are shown in Table 4. When these figures are compared with those in Table 2, it is readily seen that the cases cannot be accurate unless we have a very poor set of physicians in the State, or unless we have had an unusually severe type of typhoid. Neither of these latter conditions is the case of course, and the discrepancy is due to the fact that the disease has not been reported.

From these figures it is very readily seen that the reports for the State are far from being correct. As a result of this inaccuracy, the figures are of very little value. It is almost impossible for the State Board of Health to do any real work in the way of preventing the occurrence of the communicable diseases unless it can have a knowledge of the true conditions in the State with regard to those diseases. The State Board is anxious to do all in its power to assist the local authorities in their fight against disease, but must depend, in large part, upon the individual physician.

There are only ten States in the country which do not get reports of disease, and why should Georgia be among these backward ones? She has never been among the slackers when it came to other national duties, and why should she take such a position now? For it is truly a national duty to report communicable diseases. The day when we could say that sickness only concerned us individually has passed, for we are a part of one large family and everything that concerns one State in the way of communicable disease, is a matter of very great concern to every other State. And, in addition to the fact that it is the duty of the individual physician to report because of this public health aspect, it is also his duty as required by the laws of the State, and every failure to report a case is a violation of the laws of Georgia.

TABLE 1.

Typhoid Fever: Monthly averages of cases reported during the years for which data are not available, 1913-1917.

State	Totals	MONTHS Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
Alabama	2642	81	67	50	65	117	310	575	532	339	265	152	89
Mississippi	5926	257	193	164	157	299	616	955	1042	816	642	480	305
South Carolina	976	24	14	23	26	62	194	203	149	147	73	42	19
Totals	9544	362	274	237	248	478	1120	1733	1723	1302	980	674	413

TABLE 2.

Typhoid Fever: Cases actually reported in Georgia, 1919.

State	Totals	MONTHS Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
Georgia	822	10	25	21	22	93	173	273	205	...	...	...	...

TABLE 3.

Typhoid Fever: Cases which have occurred in Georgia in 1919 if rate is same as that in Alabama, Mississippi and South Carolina, 1913-1917.

State	Totals	MONTHS Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
Georgia	2831	93	99	99	105	178	452	887	918	...	...	...	..

T. F. ABECROMBIE,
Secretary State Board of Health

BOOK REVIEWS

Neoplastic Diseases: A Text-Book on Tumors. By James Ewing, M. D., Professor of Pathology, at Cornell University Medical School. W. B. Saunders Co.

In view of the interest now being taken in the study of cancer, Dr. Ewing's new book is one of the most timely that has appeared in a decade. While all forms of tumors are given adequate space in the work, the subject of cancer is well chosen for the fullest discussion. The author states that his chief object and hope in presenting the book is that by rendering more accessible to English readers the knowledge of tumors he may contribute something toward the reduction of the mortality from cancer.

In the preface we read, "While a great volume of information regarding the clinical phenomena of the main forms of tumors is available in special works on medicine, surgery and the specialties, the task of unraveling their separate varieties, tracing their mode of growth and origin, and establishing the nature of the less common forms, falls to the lot of the pathologists." Truly this task is well performed in Ewing's splendid book. He says that several laborious years were spent in its preparation. The results show it. Apparently not an authority has been overlooked in telling all that was ever known about tumors, from Herodotus down to the present day. The bibliography is one of the most voluminous and complete ever published in a single book, and is a masterpiece in itself.

Seeing chapters headed with such titles as "Malignancy and its Effects on the Organisms," "Matastasis," "Chemistry of Tumors," "Theories of the Nature of Cancer," "The Parasitic Theory," "Experimental Cancer Research," etc., should excite the interest of every serious student of medicine, whatever his line of work. The chapter on tumors of the brain is especially good; so with those chapters dealing with tumors of the thyroid gland, the liver, kidneys and the hypophysis.

Altogether Dr. Ewing has written an epochal book, which not only should be in every medical library, but which should occupy a shelf with the classics of medical literature.

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NEWS: Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to physicians. We shall be glad to know the name of the sender in every instance.

Editorials

NEW DEPARTMENTS.

In the September issue of the Journal, two new departments were opened to our readers; book reviews and abstracts. From time to time articles of this nature have appeared in the Journal but no real attention has been given this work as a distinct entity of the publication. It is the hope of the editors to make these departments worthy. Much time will be given to them, as we deem nothing of more importance or more practical to the busy practitioner than to have for ready reference the salient features of a book or article carefully selected and put down in a few words. Coming to him as current matter from month to month he may have the "milk of the cocanut" without giving the time required to find for himself the new and interesting points by laborously reading voluminous matter. In fact, few men have the time to give and if these departments can serve the purpose for which they are intended, then the Journal is well worth while for them alone.

It is no easy matter to establish these departments. It is a terrific undertaking to review, thoroughly, one book. Considering the number of books put on the market every year, the task will be difficult. Of course, it will not be impossible, nor would it be practical, to review every medical book published. The leading works, however, and those books published by our leading publishers, will be reviewed. The plan for doing this we believe will make it successful. Each department of medicine has at its head on the editorial staff an editor. When books come in for review they will be referred by the managing editor to the department to which they belong and the

review will be made by that gentleman. The same plan is now in operation with our original articles.

With the corps of editors now on the Journal staff our readers may feel sure that reviews are to be thorough and frank. Those books which deserve condemnation will be condemned. Those which merit praise will receive such comments as best describe their worthy features.

Abstracts are to receive much attention. There are many papers published every week in this country which the readers of the Journal would appreciate. Time will not allow that they be read by our members. Through this department we hope to keep you in touch with the best current literature; certainly the original work of our best men and thinkers will be abstracted.

In this department the members as a whole can be a great service to the Journal. Any article attracting the attention of a member as being worthy should be abstracted by him and sent in for publication. If this particular article has already received attention, no harm has been done, but if it has escaped the notice of the editors, real service will have been rendered by the member.

These departments are to be maintained for you. Please help us make them attractive and worth while.

OUR LITERATURE.

It is gratifying to note the increase in original work being reported by Southern doctors. It has been a noticeable fact for years that Southern doctors were apathetic in the matter of publishing their ideas, when, indeed, these ideas were the result of their own work. There has been too much "canning" from text books and a dirth of original material.

Those men who really worked seemed not to have the time to write about it, and those who had little else to do did little else. The tide is turning. Southern thinkers are putting their thoughts into words and giving Southern journals an opportunity to show in type, a matter of permanent record, what is being accomplished in every branch of medicine and surgery within our own province.

There has never been any set of doctors, and this is said with deliberation, who worked harder, thought deeper, accomplished more and wrote less than Southern doctors. The modesty of Crawford W. Long seems to have been transmitted through the years to each succeeding generation of medicos.

NINTH DISTRICT SOCIETY MEETS AT CLARKSVILLE.

The Ninth District Medical Society met at Clarkesville, September 17th, and was well attended. Dr. E. W. Glidden, superintendent State Tuberculosis Sanatorium, read a paper asking for a closer relation of the physicians to the sanatorium. He urged that more careful work be done in diagnosis. The early recognition of tuberculosis means much as to prognosis. Dr. Glidden insisted on the examination of school children and also all members of any family having a case of tuberculosis.

As a result of the discussion of this paper, the secretary was directed to write the health officers in each county of the district, and ask them to inaugurate at once a system of examinations of every school in their respective counties. It is hoped that the doctors will do this work, and thereby help to make future generations more healthy.

Dr. L. G. Hardman, of Commerce, made a most interesting address on foods and the essential elements of nutrition.

He showed that the proper growth and development of a child depends on the elements of food received by the mother.

Conforming to the request of the State Council, at the next meeting of this society, which will be held at Lawrenceville in March, 1920, one hour of the program will be devoted to some subject of interest to the general public, and every one in the locality will be invited to attend. A committee was appointed to arrange the program to that end.

Dr. J. P. Bowden represented the State Board of Health, and made an address, in

which he showed the work being done by the board. He asked for better work on the part of the doctors, especially as regards reporting the diseases required by law to be reported. Drs. Geo. M. Miles and E. P. Merritt, of Atlanta, were present, and added much to interest of the meeting. Dr. Niles read a paper on the "Relation of Sleep to Bodily Nutrition" that was filled with good sense and splendid humor so characteristic of its author.

Dr. Merritt's theme was "Stones Lodged in the Ureter, their Removal by Non-Cutting Method." He showed a number o fstones that he had removed together with some of the instruments used, and explained his technique in detail. Dr. M. B. Allen, of Hoschton, gave his experience with the use of Corpora Lutea. He gave the indications for its use and reported a number of cases in which the results had been gratifying. Dr. D. C. Kelly, of Lawrenceville, who has only recently returned from France gave an interesting talk of some of his experiences in the world war. Dr. J. C. Bennett, of Jefferson, read a paper on "Criminal Abortion" that covered the subject in detail. He quoted not only from the statutes of the state, but from "Holy Writ."

The Habersham doctors are most excellent entertainers, and demonstrated it on this occasion, by giving the society a splendid dinner at the hotel.

The Ninth District Society is steadily increasing in interest and growing in numbers. Nine of the 18 counties were represented at this meeting. As stated above the next session will be at Lawrenceville on the third Wednesday in March, 1920.

A. D. White, *Secretary.*

AMERICAN RED CROSS ACTIVITIES IN FRANCE.

A report of the Bureau of Hospital Administration prepared for the War Department shows that during the last nine months of 1918 the American Red Cross performed the following hospital services in France, for military hospitals:

Surgical dressings, 21,988,060.
Sponges, 41,957,426.
Nitrous Oxide (Gal.), 3,832,896.
Splints, 1,463,200.
Surgical instruments, 77,101.
Drugs (pounds), 15,300.
Days of hospital care, 1,100,000.

When the fighting ceased the American Red Cross was operating twenty-two military hospitals with 14,326 beds.

ABSTRACTS

A PROTEST AGAINST THE RECKLESS EXTRACTION OF TEETH.

Walter C. Alvarez, San Francisco.

Jour. A. M. A., Oct. 18th.

Dr. Alvarez bemoans the sad fate of so many who have lost their teeth, either in part or their entirety, after being promised great things, or even having a cure guaranteed. Many who have no chewing surface left, and the remaining teeth are so distributed that the only thing to do is to remove them and put in plates. One of the most lamentable features is that in many of these cases, any experienced physician might have foretold the unsatisfactory outcome, and warned the orthopedist or the dentist to proceed cautiously and conservatively. The arthritis may plainly have been gouty or tubercuIous, the headaches may have been due to nephritis or to advanced arteriosclerosis, and the pains in the shoulders may have been due to degenerative changes in the aortic arch. Some of the roentgenograms on which such radical extractions were ordered were examined by Dr. Alvarez, and in several instances he could find nothing positive in their appearance.

Dr. Alvarez is voicing the opinion of many of the thoughtful physicians of today, who stand aghast at the orgy of "exodontia," as it is euphoniously designated by our dental friends.

Doubtless in some rare instances of foca infection, where the teeth were the real and offending foci, quick and decisive improvement has been noted after thei rextraction. But in many other cases, where the teeth were ordered extracted merely as a dernier resort—as a somewhat desperate shift after other remedies had been unsuccessfully tried, results are bound to be disappointing.

Dr. Alvarez concludes as follows: In view of the fact that the most thorough removal of focal infections often fails to cure arthritis and other diseases, let us be more honest and conservative with our patients. Let us be careful what we promise them. Let us save serviceable teeth whenever possible. Above all, let us do unto our patients only what we would have done unto ourselves if their teeth were in our heads.—Niles.

DIAGNOSIS AND TREATMENT OF DISEASES OF THE GALL-GLADDER AND BILIARY DUCTS.

Any information throwing light on these vexed and disturbing organs, either as to diagnosis or treatment. is necessarily welcome, though we must be on the lookout for faddism and illogical experimentation. Along this line, however, Dr. B. B. Vincent Lyon, in the Journal of the American Medical Association, Sept. 27, quotes from Dr. S. J. Meltzer as follows:

"In experiments with magnesium sulphate I observed that the local application of a 25 per cent. solution of that salt on the mucosa (of the duodenum) causes a eomplete local relaxation of the intestinal wall. It does not exert such an effect when the salt is administered by the mouth, that is, when it has to pass through the stomach before it reaches the intestines. The duodenal tube, however, apparently has reached an efficient practical stage. I make, therefore, the suggestion to test in jaundice and biliary colic the local application of a 25 per cent. solution of magnesium sulphate by means of the duodenal tube. It may relax the spincter of the eommon duct and permit the ejection of bile, and perhaps, even permit the removal of a calculus of moderate size wedged in the duct in front of the papilla of water. Twenty-five c. e. of the solution as a dose for an adult will bring no harm. For babies the dose should not exceed 4 c. c. The procedure could be developed into a practical and useful method."

Since then he has followed up the suggestion of Dr. Meltzer in army, hospital and

private practice, and feels that he has gained a certain amount of worth-while information. Dr. Lyon believes that the gall-bladder or the bile ducts may become infected with pathogenic organisms through several routes; by ascending infection of the duct directly from the duodenum; by infection by way of the portal vein, and possibly by infection directly from the systemic circulation. He opines that the sequence of events is: a primary source of infection in the mouth (gums—pyorrhea alveolaris); teeth (apical abscesses); nasal sinuses and respiratory tract (lungs—pneumonia, especially of the lobular, mixed infection tyue), capillary bronchitis, etc., and bronchial tree (simple catarrhal or purulent —large tube—bronchitis) with the swallowing of infected saliva, which sets up, under favorable circumstances, an infective gastritis, or which passes by the stomach, leaving it unharmed, to produce an infective duodenitis, and, ascending thence through the ampulla of Vater, affects the common duct, obtaining lodgment in the gall-bladder. This viscus, once infected, provides an excellent culture medium for continued bacterial development.

Dr. Lyon first aspirates by the duodenal tube (after a fasting period), and sets aside the first specimen for bacteriologic and chemic examination. He then introduces by means of a sterile syringe or the gravity method, from 50 to 100 c. c. of a sterile 25 per cent. saturated solution of magnesium sulphate, and connects up the tubing to the second sterile aspiration bottle, and starts gentle aspiration. Usually, within from two to ten minutes, bile begins to be recovered, staining a light yellow the magnesium sulphate solution still in the duodenum. When the color deepens to a pronounced yellow, the material collected in the second bottle and decanted into a sterile container. Dr. Lyon makes the following observations concerning the appearance and character of the bile in certain pathologic conditions:

"(a) **Choledochitis.**—In choledochitis, the bile first collected is definitely pathologic. It is more viscid, with an excess of flaky mucus, is usually turbid and usually 'off' color; cytologically, it contains pus cells enmeshed in mucus, epithelial cells and, occasionally, red blood corpuscles; bacteriologically, cultures may show pathogenic organisms. This type has been encountered in choledochitis also in 'simple' catarrhal jaundice, and, in these instances, the usual picture has been of an infection of a lower grade than when the gall bladder is also involved.

"(b) **Cholecystitis.**—In cholecystitis without choledochitis, the first bile collected is relatively normal, grossly and cytologically, and culturally does not contain pathogenic organisms. But the second bile is grossly pathologic; it is more viscid than normal gall-bladder bile; it is turbid, with a flaky or stringy mucus; cytologically it will show inflammatory elements, pus cells, red blood cells (occasionally) and desquamated epithelium, and, bacteriologically, cultures will show pathogenic organisms. Thus far, we have 'recovered' streptoccocci of various strains, staphylococci, **Bacillus pyocyaneus, B. typhosus and Micrococus catarrhalis.** In some cases the cultural findings have been negative, but the catarrhal elements have been pronounced. The viscosity, color and general appearance of the bile in pathologic conditions of the gall-bladder will alone suggest the diagnosis. The color varies from a deep, golden yellow, to a dark, molasses yellow, transparent, or turbid; to a light mustard yellow, always turbid, and occasionally streaked with slimy mucus of a greenish color; to various shades of green or greenish black, and in one case, was of such a tarry consistency as to make aspiration very slow and difficult.

"(c) **Cholelithiasis.**—In cholelithiasis we find the evidence of cholecystitis, but in two instances we have noted in addition that the bile contained a sediment that was 'gritty' or sandlike in consistency, which was seen, microscopically, to be made up of crystals of bile salts. In one case, that of a Filipino mess-attendant with jaundice, we succeeded, by the local use of magnesium sulphate, in recovering three small, faceted gallstones. Later, this patient was operated on by Dr. Robert G. Le Conte, who found and removed one very large calculus, about the size of an English walnut, which

was blocking an enormously enlarged common duct, and several small stones, still remaining in the gallbladder."

The foregoing is of interest mainly as to future possibilities, both as to direct medical drainage of the biliary apparatus, and direct disinfection of the duodenum and intestine by the use of various germicidal solutions.—Niles.

THE RELATIVE MORBIDITY OF BREAST AND BOTTLE FED INFANTS.

By H. H. McClanahan, Omaha, Neb.

(Archives of Pediatrics.)

The author admits that statistics of all countries abundantly establish that mortality of bottle fed infants is far greater than breast fed. He is also certain that mortality among bottle fed infants is much less of recent years. From his personal experience, a great majority of infants deprived of the breast are not properly fed. His paper more concerns the relative morbidity between normal breast fed and properly fed bottle babies, rather than including those improperly fed. He prepared and sent to prominent pediatricians all over the country, including all members of the American Pediatric Society, a letter asking the following questions: 1 Your experience as to the relative susceptibility of breast and bottle fed infants? (a) To contagious and infectious diseases? (b) To general infections? 2. The relative rate of growth and development (physical and mental) of breast and bottle fed infants? 3. A request for any literature upon the subject. His replies he divided into two classes; first, those who answered that breast fed infants are less susceptible to infection; second, those who replied that they had not observed any special difference. Those who answered in the first classification were about three to one. Concencus of opinion reached from replies, is that the breast fed infant has a greater relative immunity to some of the specific and all of the general infections, and furthermore has better resistance when the organism is invaded by pathogenic bacteria. Also that breast fed infants have a better immunity and present a better defense when the invasion occurs. He gives detailed figures concerning private cases that were under his direct personal supervision, of which 83 were bottle fed and 67 breast fed, all of the former being on modified cows milk only. He states that as a general rule the bottle fed infants were from a higher class socially, and therefore under better environment. He arrives at the following summary:

(a) The superiority of breast milk may be due to chemical and biological differences which render it more readily utilizable by the infant. As a result it has more natural energy which can apply to the invading organisms. (b) Breast milk may contain natural anti-bodies or protective ferments, both specific and non-specific. (c) Breast infants are less susceptible to infections, the two exceptions being influenza and tuberculosis. (d) Breast fed infants resist infection more quickly and with less injury. (e) The breast fed infants have less morbidity than bottle fed infants; the larger group of badly fed infants have had a still greater disadvantage.—Adkins.

OPEN AIR CLASSES.

Some rather interesting figures are brought out in an article on Open Air Classes, by Leopold Marcus, New York, (Journal A. M. A., Oct. 4, 1919), Supervising Inspector Open Air Classes, Bureau of Child Hygiene, Dept. of Health.

These figures not only emphasize the value of time spent in the open air, along with proper nourishment, even among school children from the tenement districts of the east side in New York, but also the importance of growing children of all ages spending most of the daylight hours out of doors, regardless of the temperature.

Types of children admitted to open air classes as follows:

1. Children exposed to tuberculosis at home, or in whose family there has been a recent death from this disease.

2. Children who have had tuberculosis, which is now arrested or cured.

3. Children suffering from malnutrition.

4. Children who become tired easily or show languor or fatigue before the end of the day, and on this account are unable to carry on class work.

5. Children suffering from nervous diseases except chorea.

6. Children who are frequently absent because of colds, bronchitis, etc.

7. Children suffering from cardiac disease, who are recommended by private physicians as pupils who ought to be put in these classes.

The classification provides for the tuberculous, pre-tuberculous and physically subnormal children who may be benefited by becoming pupils in one of these classes. These children are all under special supervision by medical inspectors, nurses and specially trained teachers. Cold air is a decided advantage and no temperature is too low, provided the clothing is adequate. The greatest increase in weight was made during the colder weather. This is accounted for by the fact that the appetite of the children is better during such weather. With the first return of warm weather the increase in weight is retarded. Three meals daily are not sufficient to assist them to a normal weight. All are fed in these classes between breakfast and lunch, mainly on cereals and milk. Those whose growth and development were retarded because of physical defects, such as hypertrophied tonsils, adenoids and carious teeth, responded more rapidly after correction of these defects, in open air classes than in the regular class rooms. Even those with uncorrected physical defects would improve in open air classes, but would rapidly return to previous conditions when returned to regular classes. Frequent short recesses are found necessary to give proper rest. The most difficult problem to contend with in large cities is that of hygienic conditions at home, which entails a great deal of social service work. The good accomplished in these classes is not permanent unless home conditions are improved. From the observations made so far, these results of open air class work can be enumerated: 1 Physically subnormal children improve in their mental and physical condition. 2. Their nutrition and weight improve. 3. The gain in most instances, will be permanent. 4. In arrested cases of tuberculosis there are no relapses. 5. The nervous system is restored to a normal condition and under proper medical supervision improve markedly. 7. The capacity for doing work is increased and brought to at least a normal average. 8. Absence from school on account of illness is greatly reduced. 9. A proper diet is followed and the food is properly prepared. 10. Good habits are established. 11. Hygienic rules are lived up to. 12. Children learn how to do the right thing at the right time.

It is our firm belief that average children will give even better results if afforded the same opportunities.—Adkins.

STERILITY.

Edward Reynolds, Boston (Journal A. M. A., Oct. 11, 1919), from his experience in the management of reference cases of sterility, has found certain failures in diagnosis and treatment easy to classify. They comprise sterilities due to mistakes in the marital relation, to neglect or failure to appreciate sterility in the male, the subjection of innocent abnormalities to needless operations and failures to detect evident causes of sterility through lack of special training in microscopic examinations. Mistakes in the marital relation are not infrequently by themselves a sufficient cause of sterility, usually by the production of congestion and its results. Such mistakes are not usually perversions and may appear trivial, but if long persisted in produce important results. Frequent amorous caressing without cohabitation is not an uncommon mistake, and if habitual and frequent is unfortunate in its results to one or the other. Lack of simultaneous organism is an extremely frequent cause of congestion in the female and a common practice of withdrawal brings that about, while habitual excess tends to congestion, and, if long continued, to sterility. Merely psychologic causes of failure to obtain the orgasm are common among women and may be dispelled by appropriate advice. Fertility is essential in both sexes, and there

is too much taken for granted in the male. Negative history of veneral disease, and especially of gonorrheal epididymitis, is, Reynolds believes, too often accepted as evidence of everything being right. Fertility is a relative term, and every gradation between high fertility and complete sterility exists. Motile spermatozoa are not a full proof of fertility, and may fail in some women while they produce pregnancy in others. Constitutional conditions—overwork, etc.—may render the male infertile as well as local disease. Congestion and swelling of the prostate may result from many causes. The degree of fertility in a given male will never be decided without a full examination in all respects. Sluggish action of the colon causing autointoxication, even without causing congestion, may be a cause of sterility in the female. Hostile conditions in the secretions are also probably causative. In animal breeding, good general condition has been found essential for fertility, and Reynolds thinks this fact reenforces the possibility of sterility in the human species being due to poor general condition. Useless operations on the ovaries is a common mistake, and suspensory methods are also bad. The use of stem pessaries and unnecessary curetting are also mentioned. A certain amount of disease like slight cystoma is not absolutely preventive of pregnancy. The examination of patients when consulting in this regard should begin with a careful life-history of both husband and wife, special attention being given to autointoxications and previous local infections, and, if necessary, followed by a general medical examination for abnormalities or disease. This examination should include as full a sexual history as possible, and microscopic examination of the secretions of both sexes. An accurate prognosis is especially important, since institution of treatment, especially operative, involves decision different from that in cases of ill health. It may be fairly said, Reynolds concludes, that in young persons without venereal history or serious congenital defects, and with a sterility of but a few years' standing the prospects of obtaining pregnancy under treatment are very good, and, in selected cases, are as high as 72 to 80 per cent, but in less favorable ones it ranges downward to hopeless. Each mating must be considered by itself, and no general statement of value can be made.

RENAL AND URETERAL CALCULI.

A. J. Ochsner, Chicago (Journal A. M. A., Oct. 11, 1919), reports his earlier clinical experience with kidney and ureteral stones noticing especially one case on which a hint from a boiler maker caused him to adopt the use of distilled water to prevent recurrences, and this has been of great help in an enormous number of later cases. There is a marked difference of opinion as regards the proportion of cases in which ureteral or renal stone will pass spontaneously. Some estimate it as low as 10, others as high as 90 per cent. This depends largely, of course, on the class of cases treated. Those patients coming from a distance would give a higher proportion of nonpassage than those in the clinics of municipal hospitals. A case is reported in which pyelotomy was required and one marking a beginning of a change in his practice in treatment, since which he has invariably treated sinuses leading to tuberculous kidneys with Beck's bismuth paste and has had a fair number of recoveries. In case the calculus lies in the pelvis without several branches into the calices he has found pyelotomy the most satisfactory, following the advice of J. B. Murphy when possible, of first splitting the upper end of the ureter longitudinally and continuing it into the pelvis. "In branching stones, we have clamped the pedicle of the kidney lightly, split the cortex longitudinally just behind its midline, removed the stone, and placed heavy catgut sutures through the kidney, tied just tightly enough to bring the surfaces together, and then released the clamp. In pyelotomy, only in cases in which the edges of the pelvis failed to fall together evenly, fine catgut sutures were used. In either case we drained the wound with a strand of gauze and a cigaret drain." Ureteral stones that could not be delivered through the bladder have been removed through an abdominal incision in the

linea semilunaris and draining through the lower angle of the wound down to the incision in the ureter, without applying sutures. In only one case has he removed the stone through a vaginal incision. In his conclusions he says that the size of the stone usually determines the possibility of its passage. If a primary stone gets started in the ureter it will usually pass, but secondary stones may be stopped by cicatricial contractions due to former stones. A large proportion of moderate-sized stones pass spontaneously or after dilatation of the ureter with bougies, or the use of oil or glycerin injections or one of the other methods of dilatation, of which that of Lespinasse seems most effective. Sometimes merely starting a stone with a bougie will suffice. In acute renal colic the use of morphin and atropin hypodermically, followed by ingestion of two-ounce doses of glycerin, seems of some value in passing of stones, especially if the patient is put in a hot bath, and as a prophylactic against recurrences drinking large amounts of distilled water seems effective. Sinuses remaining after pyelotomy frequently heal after injections of Beck's bismuth paste. "The clinician who is alert for the discovery of renal or ureteral stone, who takes into consideration the history and physical findings, will rarely miss a correct diagnosis provided he confirms his diagnosis, (a) by careful urine examination; (b) by roentgenographic examination with intensified shadows if necessary; (c) by the introduction of ureteral shadow sounds; (d) by pyelography in doubtful cases, and provided he is willing to consider all points as a whole and will place no weight on negative findings by any single one of the various methods employed." The article closes with a number of useful data as regards diagnosis, including the use of the roentgen ray.

MAXILLOFACIAL SURGERY.

R. P. GcGee, Jefferson Barracks, Mo. (Journal A. M. A., Oct. 11, 1919), describes the work done in maxillofacial surgery at Mobile Hospital No. 1, during the late war. This hospital was always in the area between the 75 cm. and 6-inch guns, and this advanced position made it possible to receive many patients as early as two hours after they were hit, they being first carried to the front-line dressing station, then by ambulance to the triage, and from there to the hospital. Only transportable patients from battle casualties were received there. Many were in a state of coma and all suffering more or less from shock. As soon as possible they were all fluoroscopically examined for foreign bodies. The facial wounds were usually matted with blood and powder, and it was difficult to put them into proper condition for the first surgical attention. Frequently the anesthetic had to be given first. The first thing to consider was the shape and depth of the wound, and its loss of tissue. High explosives were the cause of most of the worst wounds. The control of hemorrhage in fresh wounds was not so difficult as later, though they were bothered only slightly with secondary hemorrhage as the American soldiers were the cleanest mouthed. When the paroid gland and its duct were injured McGee's plan was always to gather up the exposed portions with sutures and fix the same within the mouth, closing up the face wound immediately so that the fistula, if formed, would open into the mouth. When it was possible tracheotomy was avoided, but if the patients were tubed immediately they always had the ether given through the tracheotomy tube—which should be taken advantage of when possible. Cases showing the advantages of early splinting and special damages observed, such as nerve involvement, etc., are reported. There were a number of cases of double fracture of the ramus near the condyles with the soft palate traversed, and it was necessary to splint the mandible with the mouth open, otherwise the swelling of the palate will stop respiration. A special splint was devised by him for this purpose. In fractures of the maxilla, complete or partial, and whether complicated with that of the mandible or not, the treatment is that with the open bite splint, or the Kingsley splint, which was used by the New Zealand troops, and which he thinks perhaps the most efficient. Fractures of the maxilla usually unite more quickly

than those of the lower jaw, but without prompt results are more difficult. Traumatic fractures of the hard palate are treated at once. Details are given of the use of the wire splint and its advantages. The type used can be readily cut away if necessary. The almost invariable complications of face injuries, tongue injuries, etc., are noted, but they are not considered as usually difficult with proper appliances. Frequent use was made of local anesthesia with procain. The patients were evacuated in good condition, but the frequent movings of the hospital were sometimes an embarrassment, as the patients could not be retained long in its care. During the campaign Mobile Hospital No. 1 performed 6,048 major operations. The great points to be observed in the front line are conservation of bone, mucous membrane and skin. Drainage must be carried to extreme, and all bone fragments that have live periosteum must be preserved. McGee would suggest that all maxillofaciail surgeons be required to take courses in both dental and general surgery. He thinks that those who follow them in the next war should have comparatively little difficulty in beginning where they left off.

GLAUCOMA.

J. E. Weeks, New York (Journal A. M. A., Oct. 11, 1919), gives his impressions as to the various forms of glaucoma seen in thirty-two years of active practice in ophthalmology. The principal determining causes, as he regards them, are (1) obstruction to the outflow of fluids from various causes which he enumerates, such as inflammatory products from numerous causes; (2) sclerosis affecting the lymph spaces at the sclerocorneal junction as in buphthalmos or after interstitial sclerokeratitis; (3) increase in intra-ocular secretions, and (4) retention of aqueous in the posterior chamber. In idiopathic glaucoma very marked changes in tension may occur. He has seen as much as 10 degrees between the two eyes, both above normal, and on the following day down to normal again. The miotics employed are, of course, pilocarpin and physostigmin and as adjuvants jaborandi is used internally, opium at times and also free catharsis. At least 90 per cent of patients with idiopathic glaucoma, except in infantile cases, give a history of chronic constipation, the relief of which goes far to relieve hypertension. Miotics have been employed as a preventive as well as a corrective in many cases in which the tension is near the upper limit of normal, the anterior chamber shallow, and in which there is even slight cupping of all or a part of the disk—pilocarpin used once a day at night on retiring. His routine practice is to test the tension first by digital palpation, and if hypertension appears present or probable a tonometric measurement is taken. If the tension is above 25 by the Schiotz' tonometer, miotics are resorted to, attention being also given to the field of vision for form and colors and the degree of vision determined. It has been possible in many cases of "idiopathic" glaucoma to put the tension at about the upper limit and keep it there without deterioration or loss of visual fields. Miotics are useful in hypertension after cataract, and may relieve it permanently to a great extent. As regards dosage, he begins with pilocarpin in a 0.33 per cent solution twice daily, increasing it in dosage and frequency according to necessity up to 2 per cent as frequently as required, or changing it to physostigmin solution (salicylate as a rule) in strength from 0.1 to 5 per cent. In secondary glaucoma the effects of miotics are seldom so marked as in the iodiopathic cases. Reduction is not so easy to be obtained or to be maintained. For many years he has made a practice, when possible, to try miotics in all cases of hypertension before advising operation. A diminution in the field of form or colors is an urgent sign, as is also a slight positive diminution of vision. Experience teaches him that early operation is desirable and small retinal hemorrhages do not contraindicate if other conditions are urgent. The sort of operation must be determined by the case. Buphthalmos and other forms of infantile glaucoma are not as a rule satisfactorily treated with miotics, but exceptions occur. In buphthalmos paracentesis may be resorted to early in the condition, and if followed by miotics

may often have a good result. When the patient has reached the age of from 4 to 8 years, trephining is the operation of choice. Neither iridectomy nor the Lagrange operation in buphthalmos is satisfactory because of the extreme thinness of the cornea and the difficulty of obtaining a filtrating cicatrix without endangering the contents of the globe. The opening has a tendency to stretch and a large trephine should not be used. When, in infantile glaucoma, the globe is not enlarged some other form of operation may be used. Secondary glaucoma after cataract abstraction has been seen by him in about 4 per cent of the cases, in some of which the capsule of the lens seems to be the cause. In a few cases, after a cataract extraction, the iris on one or both sides of the coloboma has become incarcerated in the angle of the wound and hypertension has developed afterward. If the anterior chamber is opened at a suitable place, and the columns of the colomba on the incarcerated side are freely divided the hypertension will be relieved in most cases. He mentions other measures that may be taken to relieve this condition in special cases. In secondary glaucoma with acute or subacute iritis, the hypertension will usually subside spontaneously in a few days. At times operation (paracentesis) once or more made at the limbus will be sufficient. The secondary glaucomas following sclerokeratitis or interstitial keratitis are not usually relieved by simple iridectomy. A filtering cicatrix must be obtained in virtually all chronic cases with deep anterior chamber. Other particulars as observed by him are briefly noticed, and he says that ophthalmology owes much to Colonel Tlliot and Professor Lagrange for the operations they have advocated, and he gives his experience with these operations. In using the Lagrange operation, the after-treatment is very important, daily massage beginning after operating if the tension is not subnormal and continuing a few days or weeks if necessary to obtain a filtering cicatrix.

MENINGITIS.

J. S. Robinson, Winchester, Ind., and Jesse R. Gerstley, Chicago (Journal A. M. A., Oct. 11, 1919), report an epidemic in the Army of Occupation of forty-five cases of cerebrospinal meningitis which an American serum, five months old, and a still older French serum failed to control, but which was later mastered by a more freshly made French serum. From consideration of all the facts the authors deduce the following conclusions: "1. Bacteria may vary according to geographic location. Perhaps our first serum failed because, in its manufacture, strains and organisms indigenous to Germany and France were not included. This, atany rate, is a theoretical possibility. 2. A conclusion of vital clinical importance is that if a patient with epidemic meningitis does not respond at once to intraspinal treatment, one should not temporize. The agglutinating property of the serum against the patient's own organisms should be tested, and if the laboratory evidence is unfavorable, more satisfactory serum should be procured at once."

THE NERVOUS CHILD.

According to E. B. McCready, Wildwood, Pa. (Journal A. M. A., Oct. 11, 1919), the well-poised, efficient, emotionally stable adult is the exception rather than the rule in modern life, and procrastination as regards proper treatment of nervous and mental disorders is altogether too common. The physicians are apt to belittle the cases when first consulted, and this class of disease is insidious in its onset. Pessimistic prognoses are also dangerous. While some children are born nervous from heredity, some acquire nervousness from habits or disease and others have nervousness thrust on them through faulty home and school training. It is the physician's duty to counteract all these conditions and influences, which tend toward aggravation at puberty. There are physical anomalies—cranial or facial asymmetries, ocular defects, enlarged tonsils, nasal deviation, delayed puberty, abnormal growth, etc. Attempts to classify and label

cases are useless—it is enough to say the child is nervous, and, therefore, a potential neuropath or psychopath. Its defects must be looked after as early as possible and its environment modified. Unfortunately, this is adapted to meet the adults' conditions, especially in cities, and no matter how conscientious the parents may be they may lack the training required. Most children are overestimated in modern life, and many deleterious conditions are overlooked because they are common. Overfatigue in children brings about irritability, and the exciting conditions of urban life are liable to cause it. Diet is also important, as well as fresh air and exercise. Country life is likely to be better in all these respects than city life. The utilization of nature insisted on by Sequin in the educational system is specially important and his general rules for garden schools are quoted, but his ideas, unfortunately, have not been, as a whole, put in practice. McCready promises a description of a practical method of education for nervous children, based on Sequin's theories, in a further article.

MALAKOPLAKIA OF THE BLADDER.

Two cases of malakoplakia of the bladder are reported by A. I. Folsom, Dallas, Texas (Journal A. M. A., Oct. 11, 1919), both in females. The lesions found were small masses having the appearance of papillomas, round and almost pedunculated in some places, and in other places with broad bases. They were clustered about and near the trigon. The first patient had had more or less difficulty in urination, undue frequency, burning sensation and difficulty in voiding. The condition was first considered by the pathologist as a carcinoma, but the symptoms did not warrant it. Conditions were about the same in both cases, but in the second there was more general disturbance, the patient appearing below par and anemic. The condition is discussed. The name was first given to it by Von Hansemann in 1903, but it was first described by others a year earlier. Since that time twenty-two cases have been reported, all but two at necropsy. It appears to be one of late life, all but one being seen in adults over 40—eighteen females, including these cases he reports, and six males. The only article he finds in the English language is one by Pappenheimer, Proc. New York Path. Soc. 6:65-71, 1906-1907, who described two cases. Opinion is divided as to the part played by tuberculosis in its causation. There was no history of tuberculosis in the cases Folsom reports, and a careful examination revealed no evidence of the disease. Writers, generally, are agreed that the lesions are "infectious granulomas of inflammatory origin." Gutmann and Michaelis, alone consider the condition neoplastic, calling it a form of benign epithelial neoplasm.

IPECAC PREPARATIONS.

The reputed value of ipecac against amebas has a drawback; its nauseant and emetic actions which are not always satisfactorily met by coating the pills with salol. The hypodermic injection of emetin hydrochlorid avoids the local actions but often is ineffective, specially in a chronic carrier. Torald Sollmann, Cleveland (Journal A. M. A., Oct. 11, 1919), takes up the examination of two emetin compounds which have the quality of being insoluble in the stomach but not in the intestinal secretions. These are emetin bismuth iodid, described in New and Nonofficial Remedies and reported on by the Council on Pharmacy and Chemistry, which is only soluble in water and dilute acids but freely soluble in a 1 per cent solution of bicarbonate of soda. It is evidently somewhat soluble in the stomach and therefore may cause digestive disturbances, though much less severe than emetin. The other preparation is alcresta ipecac, an adsorption product of ipecac and fuller's earth, prepared according to the method of J. U. Lloyd, who found that practically all alkaloids are absorbed by this powder and therefore insoluble in neutral or acidulated water. This preparation has been dropped from N. N. R. as not supporting the claims made for it. Sollmann gives details of his experiments, which might be objected to theoretically but without good reason, he thinks. He finds that emetin bismuth iodid is only

slightly soluble in stomach fluids, but freely so in alkaline secretions of the intestines. This agrees with clinical experience, that it is an effective amebicide, but not altogether devoid of gastro-intestinal irritability. The alkaloids of alcresta ipecac are entirely insoluble both in acid and alkaline solutions of physiologic concentration, and the solubility is not improved by the addition of bile salts or of alubumin. Pharmacologic literature of alcresta ipecac is confirmatory of the inactivity of the enetin it contains.

TOXEMIAS AND THE EYE.

G. H. Bell, New York (Journal A. M. A., Oct. 11, 1919), calls attention to the focal infections as met with in the practice of ophtholmologists. For want of better clqassification, he designates them under the head of the "three T's" (teeth, tonsils and the toxemias of the intestinal tract), these being the most potent ones encountered. Every patient coming to his office, he says, must stand the "icad test" of the three T's, and the same routine, as far as possible, is carried out in his clinic in the New York Eye and Ear Infirmary. Of course, it is understood that, when necessary, syphilis, gonorrhea and an occasional sinus or tuberculous trouble must be excluded in making the diagnosis. The teeth examination includes inspection of the mouth, palpation of the gums and roentgenograms of all the teeth, dead or alive, pivots, arches, and bridges. After eliminating the diseases commonly associated with dental infection, he believes there is a growing tendency to attribute degenerative conditions, like arteriosclerosis, etc., to this cause. A number of cases are reported illustrating the influence of dental disease, and he quotes Sir W. Lang, who traced seventy-four out of 200 cases of iritis to defective teeth and stumps. Any part of the eye may be affected, but the greatest number are affections of the iris, ciliary, choroid or cornea. In his opinion the best way to solve the dental problems correctly is to start with the children in the schools. He says that education in dental hygiene is as essential as education of the mind. There should be legal inspection of tooth brushes, as there is a large amount of trash sold in that line. The dental inspectors should also be taught to examine the eyesight of the children, and pamphlets of instruction should be issued including, also, statements of the evil effect of too much sugar and candies. Bell believes that a dirty mouth is one of the greatest menaces of the human race today. The tonsils have been long known to be foci of infection, but are often neglected or overlooked, and when involved nothing less than radical treatment is of much value. Two cases are quoted showing the effect on the eyes of tonsillar disease. Volumes have been written about intestinal toxemias, but little has been told us as to how to prevent them. How often, he asks, do we demand, a urinary examination of our patients? Much space is given to the evils of excess of sugar consumption. Bell considers it a toxic substance the use of which should be discontinued by children and adults as far as possible. Riggs' Disease is not only a serious condition, but is very prevalent, and Bell quotes numerous authorities as to this, and reports cases showing its evil effects. He strongly urges the country to "get right" on the dental question, and calls attention to the value of the roentgenogram as an aid to the diagnosis of deep-seated foci, too apt to be overlooked.

HEAT AND TUBERCULOSIS.

Harry Gauss, Chicago (Journal A. M. A., Oct. 11, 1919), has studied the effects of high temperature during the hot spell of July, 1916, on the patients in Cook County Hospital, with special reference to the effect in tuberculous cases. The normal man is supposed to stand the excessive heat strain. For heat stroke it is not unlikely that heat, pure and simple, is the chief factor. During July, 1916, there were admitted to Cook County Hospital 158 patients suffering from heat stroke and exhaustion. But independent of those admitted as frank heat cases, rises of temperature were observed in other patients, greater than might have been expected in the ordinary course of their diseases. In the tuberculous ward seven patients had temperatures 2 to 3 F. above that due to the

usual course of the disease which correspond in time with the principal heat wave. Similar observations were made in other diseases, but the tuberculous were taken for special study. Most of them had chronic advanced tuberculosis, and their fever tended to run an even protracted course without marked irregularities. The history of every case in this ward was examined and their temperature records were noted for the hottest five days, and the five days preceding and following. Fifty-six cases were thus observed, and their morning and afternoon temperatures for each day were averaged and plotted. "It is thus seen that in the five days preceding the heat wave, July 20 to 25, the average afternoon temperature varied between 99.5 to 100 F., in the five days of the heat wave, July 26 to 30, the afternoon temperatures varied from 100.5 to 100.8 F. and in the five days after the heat wave the afternoon temperatures varied between 99.7 and 100 F. The striking factor is that during the heat wave the average afternoon temperature was 100.62 F. as compared to 99.8 and 99.86 F. for similiar periods preceding and following it." Gauss concludes that the increased temperature during the foregoing period was probably caused by the high air temperatures and unfavorable air conditions.

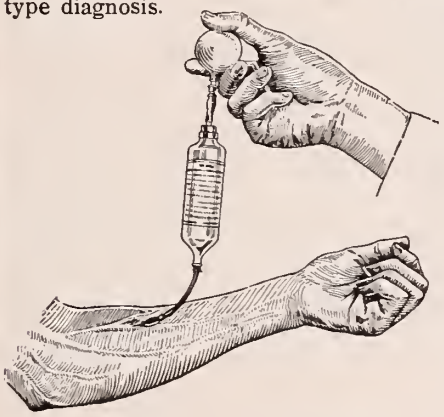
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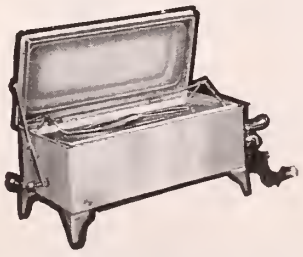
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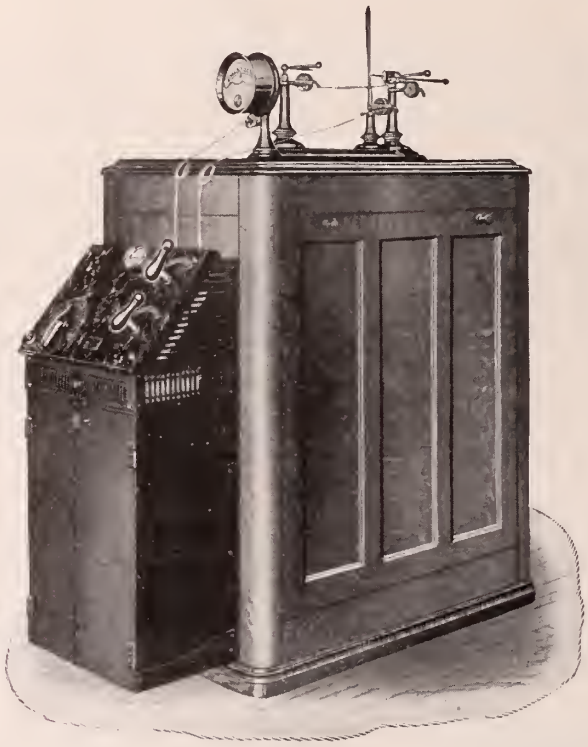
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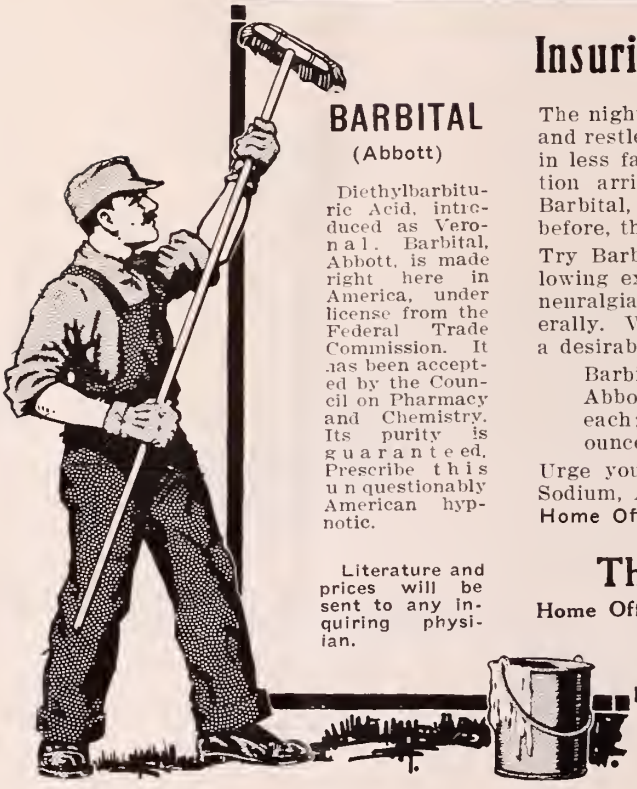
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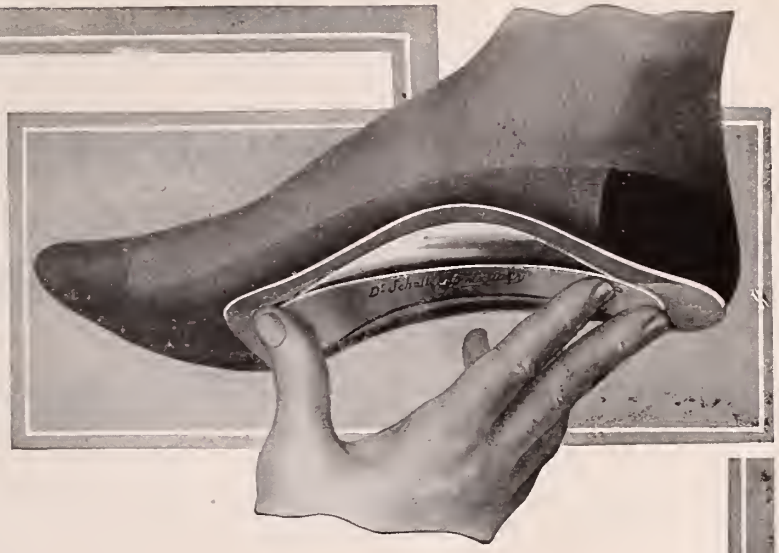
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ORIGINAL ARTICLES

WHAT THE PUBLIC SHOULD KNOW ABOUT CANCER.

By J. L. Campbell, M. D., F. A. C. S.

Chairman of the Commission of the Medical Association of Georgia for the Study and Control of Cancer.

What education has done to reduce the death rate from tuberculosis, digestive disorders in infants, diphtheria and typhoid fever, it can do for cancer.

Since 1900 the educational propaganda has been intense and medical science has made many notable advances in the prevention and cure of diseases. The great white plague is fast disappearing from our midst; typhoid and yellow fever have almost gone and diphtheria is no longer the dread of every home in the land.

Cancer stands almost alone among the curable diseases with an advance in its death claims.

Statistics from the registration area of the United States show the following death rate per 100,000 population.

	1900	1916	Dec.	Inc.
Cancer	63.	81.8	00.0	18.8
Tuberculosis all forms	201.9	141.6	60.3	00.0
Diarrhoea and enteritis in children under two years	108.8	65.6	43.2	00.0
Diphtheria and croup	43.3	14.5	28.8	00.0
Typhoid fever ...	35.9	14.5	28.8	00.0

"Malignant tumors are among the oldest known afflictions of civilized mankind. The history of cancer can be traced backward by an unbroken record to ancient Egypt (1500 B. C.), India and Persia." Hippocrates was well acquainted with cancer of the skin, breast and internal organs. He was the first to advocate the use of the actual cautery (a hot piece of metal) in the treatment of this disease and removed a carcinoma of the neck by this means, 440 B. C. Herodotus tells us that the daughter of Darius, King of Persia, was cured of a cancer of the breast 520 B. C. Nearly all the early writers, from the time of Hippocrates to Galen, tell us of remedies, both internal and local, that were used for the cure of cancer.



Cancer of the right breast showing retraction of the nipple. First described by Leonides, of Alexandria, 150 B. C.

Leonides, of Alexandria, 150 B. C., first described retraction of the nipple in cancer of the breast. He advocated more radical treatment than any of his time, and exercised the breast, using a knife and cautery, cut well through the healthy tissue, and approached closely the technique of our modern operation.

From the time of Leonides until after the reign of Queen Elizabeth little advance was made in our knowledge of this subject. It was the belief among the masses that cancer was an evidence of divine wrath, and, therefore, curable only by the priests and monks.

From the earliest times men have wondered at the composition of our bodies. Hippocrates believed that they were composed of four humors, blood, phlegm, yellow and

black bile. A proper mixture of these humors constituted health, while a disproportionate relation caused disease. He believed that cancer was due to the accummulation of black bile in the affected part and, strange to say, this theory was held until after the discovery of the circulation of the blood by Harvey in 1628, the lymph vessels by Pecquet in 1652 and the blood corpuscles by Malpighi in 1661. It was not until after the cellular structure of the body was established by the discoveries of Wolf, Collard, Schwan and others early in the 19th century that the true nature of tumors was definitely known.

By cellular structure we mean that every part of the body is made up of minute masses held together by a cement-like substance. To illustrate, the cells of our body may be likened to the bricks in a house, held together by the mortar. Every structure of the body is made up of cells peculiar to the part to which it belongs.

In 1838 J. Muller published an article on malignant tumors, showing that they were composed of groups of cells. This started a new line of thought and a new search for the cause of cancer. Some at once began to search for a special cell, while others contended that the existing cells reverted to the embryonic type.

From the time of Hippocrates to the present, men have searched for the cause of cancer, and, for the past twenty years the search has been intensive. Vast sums of money have been spent and the best talent in the world has worked in vain to discover a definite cause, but the best we have done to date, is to locate some of the most prominent predisposing causes and refute some of the fallacies.

This dread malady causes the death of more men and women over forty years of age than does tuberculosis, pneumonia, typhoid fever and many other diseases combined. In the last two years nearly 200,000 people have died from it in the United States, more than died in the United States army from all causes. Its death rate is on the increase everywhere. In 1848 the rate in Massachusetts was 29.9 per 100,000; in 1913 it was 109.6. In Atlanta, Ga., it increased 12.4 per 100,000 in five years, from 1910 to15. In ten years, from 1907 to 1917, there were 392 more deaths among the white population than among the negroes.

Statistics of the Prudential Life Insurance Company of America show an increase of 2.1 per cent males and 4.2 per cent females annually since 1891. Statistics from the same source show that cancer caused the death of one male in twenty in a series of 33,419 deaths from all causes, and **at all ages,** and one female in ten in a series of 7,519 deaths from all causes and **at all ages.** It causes more than ten deaths per hour in the United States. Cancer is a disease of adult life. Its insidious onset is without pain and at the most useful period of life, when the father and mother are of the greatest service to the family and society. It destroys the life of three times as many women as men between the ages of thirty-five and forty-five, and twice as many between forty-five and fifty-five. One woman in every eight dies of this malady after the age of forty years.

At the present time cancer causes the death of 90 per cent of those afflicted with any of its various forms. This is due to two things: First, timidity, modesty and fear on the part of the laity; and second, procrastination and ignorance on the part of the attending physician. It is not hereditary and has absolutely no connection with "bad blood." It is not contagious, as there is no such thing as a special cancer cell.

Cancer is a purely local and curable disease when discovered early. **It is absolutely painless at first in about 95 per cent of cases.**

While no definite cause has, as yet, been discovered, we know many local conditions that predispose to the development of cancer. They are known in medical literature as "precancerous lesions." There are also many well known predisposing causes as, for instance, age and sex. Although found at any age, it is most prevalent at the ages of forty years and over.

Certain organs in the two sexes seem to possess peculiar susceptibility. A little more than 90 per cent of cancer of the mouth are in men; 98 per cent of cancer of the breast and 95 to 98 per cent of cancer of the gen-

erative organs are in women, while cancer of the digestive tract is more equally divided between the two sexes.

Occupation that entails constant irritation on any part of the body, pigmented moles and scars are prominent sites for the development of skin cancers.

Absolutely local at first, the cells are soon carried by the lymphatics to other, and inaccessible, parts of the body. As soon as a tumor becomes malignant, the cells come in contact with lymph vessels, and are carried to the nearest glands, and thence to others. As a rule, the younger and more vigorous the person the more rapid the dissemination. If it were not for the lymphatics, cancer would lose 80 per cent of its seriousness. John B. Murphy stated that data collected from 10,300 autopsies on patients dead from various forms of this disease showed, that in 80 per cent it had been distributed to other organs and parts of the body.



Section through a cancer of the breast. The cancer is extended in all directions into the breast tissue. Massage, manipulation and rough handling breaks these cell precesses and pushes them into the healthy tissue, where they are picked up by the lymphatics.

A cancer is not surrounded by a membrane limiting its growth, as is the case with simple tumors, but sends out processes of cells into the surrounding tissues. **Rough handling**, pressure, **massage**, and even **light manipulation**, presses these cells further into the healthy structure and causes a more rapid dissemination. It has been demonstrated in mice, that simple pressure for only a few minutes will spread the cells rapidly into other organs. Take, for instance, two mice having tumors of the same size and location. In one the tumor is pinched and roughly handled, in the other it is not. The lungs of the former will in a few days, be found to contain foci of cancer cells, while those of the latter will remain healthy.

In cancer of the mouth 91 per cent found on the lips and cheek, and 83 per cent on the tongue, are in men; 4.5 per cent occur before the age of thirty-five. 25.8 per cent between the ages of thirty-five and forty-five, and 64.1 per cent between the ages of forty-five and sixty-five.



Leukoplakia (a pearly white spot) on the side of the tongue. Cancer develops on many of these spots. They are due to irritation from a broken tooth, smoking and oral sepis.

The most frequent precancerous conditions in this location are lenkoplakia (a pearly whit spot), chronic indurated fissures and



Epulis (a pigmented sarcoma of mild malignancy) on the gum of a ten year old boy. These tumors are due to oral sepsis and irritation around the nect of the teeth.

nodules that do not yield to ordinary treatment; and indolent cold sore, after a person reached forty years of age, is very suspicious.



Cancer of the neck, secondary to a small cancer of the right side of the lower lip. The sore on the lip was burned out, but the lyphatics were not removed. Cancer would loose 80 per cent of its seriousness if it were not for the lyphatics.

Cancers of the mouth are most frequently located on the side of the lower lip, the mucous membrane inside the cheeks and on the tongue. The irritation and heat from smoking, broken teeth, ill fitting dental plates, and oral sepsis, are reckoned among the chief causes.

Cancers of the digestive tract are more equally divided between the sexes. More than 40,000 of the 100,000 of its victims in the United States last year died from cancer of the stomach, liver, gall bladder and intestines.

Cancer of the intestines is comparatively rare. Estimates place it at, from 5 to 8 per cent of the total number. It seldom occurs in the small intestines where the secretion is alkaline. The majority of cases involving the appendix, large intestine and rectum. Early symptoms in former two may escape notice but in the rectum symptoms of dysentery, piles and difficult defication should never be neglected.

The ratio of cancer of the stomach, liver and gall bladder in men and women is 5 to 4; 39.75 per cent of all cancers are in these organs. It frequently occurs between thirty and forty years of age and has been found in the preceding decade. The average age, however, is about sixty years. It is said to be due to eating and drinking hot food—more than half the patients with cancer of the stomach at the Mayo clinic gave histories of ulcers of the stomach lasting from a few months to several years.

Chronic indigestion should never be neglected. A history of gall stone is present in nearly all cases of cancer of the gall bladder.

More than 16,000 women died of cancer of the womb in the United States last year. In this organ symptoms are not as distinct as are those of the breast. Irregular menstruation after the age of thirty-five, should never be neglected. An unaccountable discharge from the womb is suspicious, and should lead a woman to seek expert advice. Do not be satisfied if your doctor does not make a thorough examination. The loss of blood is a serious matter, whether the cause is malignant or not. Heed what the doctor tells you. Noah warned the people of his time of the approaching flood, and all might have been saved had they heeded his warning.

More than half of the cancers of the mouth of the womb are due to laceration at childbirth. A mucous or watery discharg is one of the earliest symptoms. Irregular bleeding during the change of life is very suspicious and a woman should never b esatisfied with the advice—"This is merely the change of life, all will be well in a few months."

A foul smelling discharge, and pain, are late symptoms, except in rare cases and when present denote an incurable condition.

Between 9,000 and 10,000 women died of cancer of the breast last year. How many of these women would have been living today had they known and realized the truth about this dread disease.

The first and most important symptom of cancer of the breast, is a lump—neither painful nor tender—a simple lump; 83 per cent of all lumps in the breasts of women

over 35 years of age are cancer. Only 17 per cent of the women with lumps in their breasts can afford to be satisfied with the advice often given—"Let it alone, if it doesn't trouble you, don't trouble it." "Every lump should be considered a cancer until it is proven otherwise."

Pain is present early in only 9 per cent of cases and then its character varies greatly. Of course pain is present in nearly all advanced cases, but when present it is generally too late to effect a cure.

A persistent discharge from the nipple, accompanied by an eczema-like eruption, is evidence of cancer of the milk ducts, and is known as Paget's disease—a very malignant form.

The statement that this awful disease is curable, is unquestionably true if the patient receives the proper treatment in time; a few weeks delay may mean death; it certainly does no good. It is better to sacrifice a portion of the body for a simple condition, than to risk a horrible death from cancer.

The X-ray and radium have their fields of usefulness. Small lesions of the skin are quickly and painlessly cured by radium; but it is not a cure-all. Advanced conditions that have reached a stage beyond removal, may be benefitted, and the patient's life prolonged and made more comfortable by X-ray.

Complete removal by surgical means is the only remedy that, at this time, gives any hope of complete cure; not only the growth, but the lymphatics as well, that may have become involved, must be removed. It is useless to destroy the growth and leave the involved lymph glands.

After a careful analysis of the above, we are forced to the following conclusions:

First: While the definite cause has not been discovered, we know that constant irritation will be followed by cancer and that there are a number of conditions which are spoken of in medical literature as pre-cancerous, which, if properly treated, do not develop into real cancers.

Second: Many lives may be saved by timely attention to any suspicious symptoms that may arise; some old ideas must be abandoned, and hearty co-operation must exist between the doctor and the patient. The patient must learn to face bravely the statement "This condition is at least suspicious." Do not procrastinate; have it properly treated.

Third: It is the doctor's duty to study his patient's welfare at all times, and especially in diseases where a short delay may mean death. Cancer robs the home of the parents at a time when their presence is most needed, since the majority of cancer deaths occur between the ages of 35 and 55.

In the preparation of this article I have freely consulted literature published by the American Society for the Control of Cancer; Frederick L. Hoffman's "Mortality from Cancer Through the World," and numerous reprints, James Ewing's "Neoplastic Diseases," Deavor & McFarland's "Anomilies and Diseases of the Breast," Gordon Heyd, Medical Record, June 16, 1917, p. 1039, Murphy's Clinics, United States Mortality Statistics and numerous other articles.
1039.

TREATMENT OF GUNSHOT WOUNDS OF ABDOMEN.

Marion C. Pruitt, L. R. C. P., S., M. D., F. R. C. S., Formerly Major U S. M. C.

It is hardly more than twenty years ago since the results of exploratory laparotomy became so consistently beneficial that the risk of operative treatment could be considered.

In 1881 Marion Sims began to practice and advocate systematic intervention in gunshot wounds of the abdomen. The results produced by laparotomy—this operation being in its infancy—were not very brilliant and did not greatly increase its partisans, but from this teaching there developed two distinct schools, the abstentionist and the interventionist. Kulula in 1899 writes that the "French Party" still remained abstentionist while the "American and German Party" were interventionist. As early as 1866, during the Civil War, Billings, a very warm partisan of laparotomy in the treatment of war wounds, operated on ten cases with nine deaths; while Nancrede reported

66 per cent mortality in those not operated upon. This war (Civil War) marked the beginning of laparotomy in the treatment of war wounds, but the risks of laparotomy during that period, even in time of peace under the most favorable circumstances, were very grave.

The results of the China-Japanese war of 1893-5 made Haga condemn laparotomy as impracticable and useless.

After the Spanish-American war the majority of American surgeons (Girard, Rudberg, Beckmann, Nancrede and Delatour) condemned intervention. Medical treatment gave twelve recoveries in 41 cases while laparotomy was done ten times with nine deaths.

In spite of the unfortunate results of past wars, on the eve of the Anglo-Boer war, Col. Stevenson, Professor of Military Surgery at Netley, England, in a communication to the Congress of the British Medical Association, made a very strong appeal for intervention. Surgeon General O'Dwyer was the only one who made preparations to avail himself of the opportunity to operate. Judging from partial statistics, the post operative mortality was as much as 95 per cent, still, it is to be noted that frequently the operations were done under such surrounding conditions that the results were condemned to failure. Roberts reported to the British Medical Association in 1902 that he had seen laparotomy successful in only two cases during the Anglo-Boer War. MacCormic said before Kuttner: "A man wounded in the abdomen dies if he is operated on, in this war, and remains alive if he is left in peace!" Still it is to be remembered that Treves, Dent, Ringel, Floekmann and Wieting were inclined to temporize, and advocated operation in cases of profuse internal hemorrhage, escape of faecal matter and peritoneal infections.

Present War.

The experience of former wars led surgeons at the beginning of the present war to consider MacCormic's aphorism, or at least the first part of it, as almost a dogma. The risk of intervention was considered to be so definitely doomed to failure that an administrative circular dated Oct. 15, 1914, impressively reminded military surgeons that medical treatment alone was to be employed and that intervention was to be confined, at the most, to Murphy's operation.

The facts observed and the works published between the outbreak of war and the signing of the armistice may be divided into four periods. 1st. In the first period it was admitted almost without question that laparotomy was disastrous and that surgical intervention should be limited to Murphy's supra-public button-hole drainage. 2nd. In the second period we note a distinct reaction in favor of intervention. 3rd. This period seems to be very doubtful with much said on both sides. 4th. About June, 1916, everywhere opinion on the whole seemed to favor habitual operative interference in all cases of penetrating and doubtful penetrating wounds of the abdomen, that is, if the operation could be done within a reasonable time after the injury. It was hardly disputable that cases were saved which would have certainly died under the starvation or expectant treatment of the abstentionists.

In my first twelve months spent in Base Hospitals in London (1915), I could not but feel impressed by the absence of cases of penetrating abdominal wounds in my wards. The explanation is quite clear. They seldom reached the base, as expectant or starvation treatment was a failure.

Murphy's Operation: In the early part of the war, John B. Murphy was given credit for a supra-pubic button-hole operation with pelvic drainage for the treatment of peritonitis caused by perforation of the stomach duodenum, caecum and the small intestine in the neighborhood of the caecum. As it was not possible without doing a laparotomy to definitely locate the part perforated, the operation was used in treatment of peritonitis caused by perforation of the gut or stomach regardless of location of injury. The object was to drain the dependent part of the abdomen and the pelvis where the intra-abdominal effusions collect by their own weight. Such an operation is rapid and simple and can be performed under

local anaesthesia, and is not serious. The drainage was frequently inefficacious. In cases of hemorrhage it lowered the intra-abdominal pressure, which came into play to arrest the hemorrhage in the closed abdominal cavity and in addition it exposed a hemorrhagic focus, hitherto safe from outside contamination, to a chance of exogenous infection. Tuffier writes: "There is unfortunately a shadow in the Murphy picture. They are all cases of effusion of black blood without escape of faecal matter followed by death."

J. Abadie collected statistics on 145 cases treated by Murphy's operation and found 111 deaths with 34 recoveries—mortality 76 per cent. The observers admit that some of the cases were nonvisceral penetrations. In short, this treatment is insufficient in cases of perforation, useless and sometimes harmful, in both penetrating and non-penetrating cases, and has been abandoned.

Distance to Place of Treatment.

The further a case with an abdominal wound has to be transferred—whether he has to be operated on or not, the graver are the results. Here is proof of this, when, for strategical reasons, all wounded had to be evacuated to a distance, we saw as we went from an advanced unit to one further back, that the number of abdominal cases rapidly decreased. All abdominal cases stand transport very badly and long distance transfers produce a very high mortality.

Time Between Wound and Operation.

The longer the delay before operation for an abdominal wound, the more disappointing are the results. I think all surgeons are unanimous in this opinion, and it is certainly confirmed by statistics collected during the past four years of war. Wallace, in 79 cases operated on after 24 hours had 27 survivals (33 per cent). My experience after 3 years service in British General Hospitals in London and one year in France with British General Hospitals and as Surgeon in charge of British Surgical team at Casualty Clearing Stations, has forced me to believe that even Wallace's 33 per cent recoveries after 24 hours, for perforating wounds of stomach or intestines are exceptional results.

It is impossible to lay down any rule, but experience has shown that operations done in the first 12 hours give very favorable results and are well worth while in the second 12 hours; after this time the chances in favor of operations are very much decreased. A distinction should be drawn between operations which are successful in the sense that the patient survives the operation—thus Murphy's operation—and those which are of value in a sense that they cure an otherwise fatal injury.

Owen Richards writes (B. M. J., April 27, 1918.) "If we assume that wounds which open the stomach or intestines are necessarily fatal, if untreated, and that hemorrhage is not, the proportion of profitable operations in a series of 164 cases to those which were merely successful is—

In the first twelve hours	4 to 1
In the second twelve hours	2 to 1
Later	1to 3

Cause of Death.

Cases of gunshot wounds of the abdomen die mainly from one of four causes: Shock, hemorrhage, peritonitis and intestinal obstruction following illus or peritonitis.

X-Ray.

The X-Ray is a very valuable aid in the diagnosis and treatment. When possible, all cases of gunshot wounds of the abdomen with only one opening should be X-Rayed before operation:

1st. It gives us exact information as to the site, size and shape of the projectile.

2nd. Helps to show the course of the missile.

3rd. Localization and skin surface markings aid very much in the rapidity of the operation and the removal of the foreign body.

Medical Treatment in Deferred Operations.

1. Absolute immobility.
2. Nothing by mouth (4 to 7 days) other than an occasional spoonful of water or a piece of lemon every two hours for intense thirst and dryness of the mouth.
3. Fowler's position.
4. Rectal saline "drop by drop."

5. Morphia gr. 1/6 to ¼ twice daily for pain and restlessness.

6. Camphorated oil and pituitary extract for low arterial tension.

Treatment Preliminary to Operation.

As a preliminary to operating for penetrating wounds of the abdomen, precautionary measures to antagonize shock are of the highest practical importance. Cases arrive in hospitals almost universally in a state of profound collapse. It is advisable to wait for a period of from one to two hours until the increased shock of the journey has subsided. One exception should be made to this rule—in those cases showing evidence of rapid progressive hemorrhage, the risks attendant on immediate operation should be taken.

During the waiting interval it is difficult to know whether or not active stimulant measures should be adopted. Most cases are complicated by a greater or less degree of hemorrhage, and stimulant measures tend to increase the bleeding. In most cases I have been satisfied with the results obtained by limiting the pre-operative stimulation to getting the patient thoroughly warm and the administration of morphia. In the most severe cases, it is probably advisable to administer pitutary extract or camphorated oil hypodermically, and saline or glucose per rectum.

Operation and Treatment During Operation.

Every precaution must be taken to minimize shock; keep the patient warm, administer saline subcutaneously and keep the exposed parts covered with hot saline gauze. The quicker the operation is finished the better, provided it is gentle and thorough. The value of the rapidity of the operation is so vital that surgeons who habitually take an hour or more over a simple case, should not attempt this branch of surgery.

Incision. In view of the fact that the injured part of the intestine may move away from the wound and so be missed and also the course of the bullet is frequently unknown, it is usually wise to make the incision near the mid-line.

General Examination. A complete and methodical inspection of the intestinal tract, and if necessary of the whole viscera, should be made, care being taken that the part of the intestines exposed is wrapped up in large compresses soaked in hot saline.

The treatment now depends on the extent of the parts injured; but whatever is to be done, if the patient is still bleeding, the first step is to mop out the clotted blood and control the hemorrhage. When the abdominal cavity is much soiled by large extravasations, it should be washed out with saline; when the extravasation is small and local, the peritoneal toilet should be local. After the necessary repair is completed, close the abdomen with or without drainage.

Drainage: When solid viscera alone are injured, mop out the blood-clots and close without drainage. In injury to the hollow viscera where the extravasation is small or local, mop out and close without drainage. When the extravasation is large and widely diffused, as occurs chiefly in injury to the full stomach, upper jejunum, colon and bladder, a supra-pubic drain should be left in for 48 hours. Cases of injury of the gastro-intestinal tract operated on more than 24 hours after injury practically always require drainage.

Post-Operative Treatment.

As soon as the patient has had the usual means of resuscitation after anaesthesia, the essential points are:

1. Absolute immobility.
2. Fowler's position.
3. Nothing by mouth—in cases of wounds of the hollow viscera.
4. When the arterial tension is low, camphorated oil, pituitary extract (hypo) and saline should be given.
5. Morphine P. T. N. for pain or restlessness.
6. In cases of much loss of blood in a state of shock, transfusion of blood is of vital importance.

Results of Operative Treatment.

From statistics collected, about 45% to 50% recover from operative treatment.

Wallace found 46% recoveries in a series of 1,200 cases, of all cases operated on.

Conclusions.

1. In a vast majority of cases of penetrating wounds of the abdomen, operative measures offer the best possible chance of success.

2. The decision as to whether a wound of the abdomen should be operated on or not, should usually be based on the time which lapsed since the injury and the rapidity of the pulse.

3. If possible, every wound of the abdomen should be explored in the first 24 hours.

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DEGENERATIVE DISEASES.

The Most Formidable Foe of Human Life.

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The casualty list of the great war, the appalling figures representing the mortality during the recent pandemic of influenza and the notable loss of life from accidential causes in recent months, or years, have prepared our minds for the appeal of cold figures, and vital statistics have thus become more and more impressive.

It may be well, therefore, to begin this paper by reference to a few figures which tend to show the relative importance of the degenerative diseases, as destroyers of human life.

For example, in the United States, the annual death rate for one hundred thousand of the population is: tuberculosis about 160, malignant neoplasms, 80, or one-half as many; for diseases of the circulatory system, 200, and degenerative diseases of the heart, blood vessels and kidneys, 400. This last figure it will be recognized is about the same as that of influenza and influenzal pneumonia during the recent onslaught of that scourge upon the American people, the deaths in the United States due to the great pandemic of a year ago being stated by different authorities as between four and five hundred thousand.

The country is deeply stirred, and not without reason, by the publication of these appalling figures, for these indicate a loss of life which the nation can ill afford. That this aroused state of the public mind may so stimulate efforts along the line of preventive medicine that adequate protection measures may be discovered and applied, and may hold public sentiment to an attitude which will render the application of any preventive or remedial measures as effective as the case demands, is a result to be earnestly hoped for.

With the picture of the destruction wrought by influenza, and of the state of fear that has arisen as a result thereof, fresh in our minds, let us turn to the consideration of a group of pathological conditions, which for present purposes, may be treated as a disease, which slays its four hundred thousand, not in one spirited charge, for just one year out of many, many years, but by the stealthy deliberate tactics of the sniper, every year, increasing the number of its slain continually from year to year, with perfect regularity, and at a most alarming rate.

Such a destroyer of human life we have in the degenerative lesions—the atheroma, the fibrosis, the lipomatosis—which affect the heart and blood vessels, the kidneys and the liver. We are not here considering changes wrought in any of these organs by the violent infections of acute diseases, or by an overwhelming quantity of some mineral or other poisons. This paper is concerned rather with these pathological changes which result from a long continued, slow and insidious action of causes so mild, and perhaps, in some instances, so comforting, or pleasing in their subjective influence, as to escape the attention which their character and effect deserve at the hand of those whose business it is to conserve human life.

Arterio-sclerosis may be taken as a type, perhaps as a tap root, of this class of maladies, and it is itself the direct cause of a tremendous loss of life in all civilized lands—meaning those lands, the people of which are sophisticated and living unnathral lives.

The increase in the death rate from arterio-sclerosis in the first ten years of this century was 227.9%, while the death rate from degenerative disease of the heart, blood vessels and kidneys has increased 100% since 1880.

We are accustomed to congratulate ourselves in recent years on the decline of infant

mortality and the notable increase in the average length of life. All these complimentary and self satisfying congratulations receive a rude shock when confronted with the facts just cited; for, as has been pointed out by many writers, the lengthening of the average span of human life has been due to the heroic efforts and marvelous achievements in prevenative medicine, chiefly in the realm of infectious diseases, the great epidemics and diseases of children.

By making a comparison, for example, between the marked decrease in the death rate from typhoid fever on the one hand, and the equally marked increase in the death rate from arterio-sclerosis on the other hand, we are impressed with the unpleasant but undeniable fact that, while with one arm of our medical science we have been saving lives by the thousands through sanitation and prophylatic inoculation, we have been with another arm, if not actually destroying life, at least failing to save it, through our neglect to educate our people regarding the causes of the degenerative diseases, which are responsible for such an appalling loss of life, and our failure to provide what is needful for the avoidance of those causes.

We physicians have placed ourselves in a position similiar to that of a bunch of boys who went chestnutting. After they had succeeded in gathering a nice quantity, they poured them out in a pile under a tree that they might look upon and enjoy the results of their efforts; then they were seized with a spirit of jollification over their success and the possession of the nuts, and while thus engaged, allowed some wise resident of the forest to slip in and spirit the precious horde away.

Or, I have sometimes thought we are like a company of firemen called out to a burning tenament, on a cold winter night, who, having extenguished the flames which threatened the immediate destruction of the dwellers in the house, left the scantily clad inhabitants to perish from the cold in the partly burned and ice-coated building.

The scope of this paper will not permit even a brief discussion of the pathology of the degenerative lesions of the circulatory and great excretory organs. But the nature of the changes found in these conditions clearly indicates that they are due to cell poisoning, irritation and strain. They are in the class of senile changes, which indicates that the organism has, from some cause, lost the power of self-preservation, or self-rejuvenation, and is falling into decay. It is not surprising therefore that among the causes of this slowly progressive cardio-vascular renal hepetic disease, old age is somewhere near the head of the list, as enumearted by most authors.

It is perhaps true to say that old age should be the only cause, and if it were, the mortality rate, however large, would not be a matter of concern, for the deaths would all be among those who had reached a good old age and had finished their life work. Unfortunately this is not the case, as we find many of these patients among people in the third decade of life, and we find them, of course, with increasing frequency with the increase of years. The trite saying that "a man is as old as his arteries," is well enough, but it does not help the individual who is growing old at thirty to give a satisfactory account of his stewardship in a world where every life is precious and every one has a share of responsibility to bear and something to contribute to the sum total of human welfare. We dismiss the question of old age and endeavor to mention some, at least, of the more truly etilogical factors in relation to this most destructive of human maladies.

Sir William Osler and some other very eminent authorities, as well as popular writers, place what is termed "The Stress of Modern Life" at the head of the list. Rightly understood, this may be the cause of first importance; and yet, it must be clear to every impartial observer, that the conditions under which the majority of the people live, during the half century just preceding the outbreak of the recent European conflagration, were not such as to warrant the assumption that the strain and stress of living caused the premature wearing out of the organism, so frequently observed. Also we all have among our patients and acquaintances at the present time notable examples of individuals who live

very strenuous lives and are almost daily under some sort of an intense mental or physical strain and yet do not grow prematurely old; and on the other hand we frequently encounter those who live lives of comparative ease and quietude, who age rapidly and early fall victims to the malady under discussion. For these and many other reasons we can not lay too much stress upon the mere effort one puts forth in meeting the vicissitudes of life as an etiological factor in this disease. The strain and stress is undoubtedly of etiological importance, but it does not play a major roll until it becomes associated with other and more potent causes.

It is quite popular in our time, and, as we know, quite gratifying to our patient, especially if that patient be a member of the medical profession, to charge the affliction up to overwork and noble and heroic burden bearing; but, if we will be honest with ourselves, we will have to admit that many times the recreation indulged in after the performance of a fair day's work is more responsible for the disease a man may have than is the work itself; or, instead of the recreation after work, it may be the indulgence of some habit before, during or after work, or failure to obtain physiological rest after what may have been a very strenuous but physiological exertion; so we can not rest our case on the assignment of overwork and stress of life as the cause of this disease.

The next cause usually mentioned is alcohol; and now we may feel that we are at least at the gateway of the real truth. No mention of arterio-sclerosis can be made without thinking of alcohol, and it is exceedingly uncommon for doctors to attempt to treat these conditions without forbidding or greatly restricting the use of that drug. The effect of alcohol in the human organism is too well known to justify our giving the matter a large space in this paper. There is a wide spread belief however that alcohol in small quantities produces no appreciable irritative effect which could lead to degenerative changes. This belief is based perhaps upon the somewhat reasonable assumption that a very small quantity would become so diluted by the fluids of the body that it would have no effect upon the tissues.

The writer is not aware that any one has yet discovered how small a quantity of alcohol would be perfectly inoccuous in the human body, but it seems clear from a physiological standpoint that any quantity of a drug capable of exciting vaso motor changes or other phenomia involving an expenditure of nervous energy can not be said to be without influence in the organism.

It is easy for any one to observe that so small a quantity of alcohol as contained in an ordinary dose of one of the common elixirs or of a patent medicine like Peruna, awakens an appreciable reaction in the living structures of the body and this is not an ordinary reaction to normal stimuli, but a reaction to a drug, and, in the case of alcohol, must mean irritation.

We may in passing call attention to another point in the discussion of alcohol, which is often overlooked, namely, the oxidizing power of the body, which is definitely limited, is heavily drawn upon by the presence of alcohol in the tissues and this damage to a definite degree the capacity for oxidizing other substances, which may be irritating poisons derived from the food, bacteria, or the tissues themselves. The extent of this reduction in oxidizing power amounts to one-twelfth of the daily oxygen intake for an amount of alcohol equivalent to that contained in one or two glasses of beer.

We will now turn to the consideration of another poison, which claims companionship with alcohol in our modern world, namely, nicotine. The intensity of this poison has long been known and is conveniently stated in terms of the cigarette, one of which contains a quantity of the drug sufficient to kill an ordinary individual if admisistered in the maner in which strychnine is usually given. And when we consider with that, the astounding fact that there are more than twenty-five billion cigarettes used annually in the United States, in addition to ten billion cigars, to say nothing of the pipe, and the snuff and the chewing tobacco, one can not fail to be impressed with the importance of nicotine in

relation to human well being and the integrity of the body.

The effect of nicotine upon the circulatory system is easily demonstrated. D.C. Brink, a Y. M. C. A. physical director, has recently published charts of some experiments which illustrate this. His subjects were permitted to sit quietly and smoke under tranquil conditions. It was found that quietly smoking three cigarettes gave a rise of 25 mm in blood pressure and an increase of 25 per minute in the pulse rate. The return to normal in both blood pressure and pulse rate required from thirty minutes to one hour. The increase was greater and the return to normal less rapid in habitual smokers than in non-smokers, which is a very significant fact.

The early experiments of Isaac Adler demonstrated that selerosis in the smaller arteries is produced by feeding them infusions of tobacco. Others have produced Atheromatous plaques and thickening at the base of the aorta by the same means.

Sclerosis of the arteries in each of eight rabbits as produeed by eausing the animal to inhale tobacco smoke Gouget, of Paris, gave rabbits ten to seventy-five C. C. of infusion of tobaeeo, and found serious degenerations in the blood vessel walls.

Dr. Frankel-Hochwart deelares that nicotine poisoning affords a predisposition to arteritis. He points out also the interesting fact that the localization of the toxic action of nicotine is very much like that of syphilis.

Emil Hess teaehes that tobaeeo should be forbidden in all cases where we wish to spare the heart. Nearly all writers on the treatment of Arterio Scherosis advise the exclusion of tobaeeo.

Space dies not permit any attempt to present opinions in regard to the mode of aetion of nieotine in producing vasular disease; but there is one very interesting point to which I may be permitted to call attention.

It has been shown that nieotine is an excitant to the suprenal gland, and produces an increased out put of its blood pressure raising secretion. It is easy to see how that this aetion, even if of moderate degree, continued over a long period of time, would result in a compensatory ehange in the vessel walls, and this would be in addition to the direct influence of the drug in producing arterial degenerations.

The public is to be congratulated that a text book on elementary physiology has reeently appeared in which the author, Doetor John Calvin Willis, dares to stand four-square to this question and describe tobacco as being very injurious "to the tissues of the whole body, attacking first the nerves, then all vital processes.

We may next mention syphilis as a cause of degenerative disease. We shall not attempt here, however, to discuss this very important factor. The marked tendency of the produets of the spiro ehaeta pallida to produee selerotic changes need only be mentioned.

These three poisons: alcohol, nieotine and syphilis, are, as we know in many cases aeting together and they form a wonderfully potent trio. These destructive agencies together play a prominent roll in terminating the life of human beings, too often at the very height of their usefulness. Is it not the duty of every physician to take a prominent part in edueating the public to avoid these subtile and dangerous poisons?

Important as are the above mentioned causes, experience teaches that there are yet other and perhaps more universal or more important causes, and we must explain the early occurrences of degenerative disease in perosns who are free from inherited or aequired syphilis, and who are not addicted to the use of alcohol, nicotine or other drugs. Some of these cases may be found due to metallic poisoning, for example the use of water contaminated by lead pipes. But chemical poisoning, we may say, is reasonable in but comparatively few cases of the disease.

There is another poison however which is consumed in very large quantities and is well known to be an ageney capable of increasing arterial tension. This drug is caffine. It is argued by some that the use of caffine is beneficial for the very reason that it does increase blood pressure and thus enables the individual to do an increased amount of work for the very present, so that he may get through with his life work more expeditiously and

leave his place on the beach of time to some other pebble.

It will be immediately observed that this argument destroyes itself. Every one gains in capacity for efficient service with experience, and it seems passing strange that eminent physiologists should attempt to convince men and women that they should kill themselves in their first effort in the flush of youth,—which is really what some of the evidence offered by the defense in a famous government case against a soft drink concern amounted to.

We still have occasion to look further for poisons or influences of some kind, which we can add to the list of causes of these destructive processes.

The brief mention of syphilis offers a suggestion that perhaps other bacterial poisons may have some part in this matter.

Since we have been studying focal infections many remarkable cases have been met with in which a very high pressure was quickly reduced by the extraction of a tooth or the clearing up of some other infective focus. These cases certainly throw suspicion upon bacterial poisons and if we look further into the question, we find that many toxanemias of bacterial origin effect the circulatory apparatus and the kidneys and the liver. If the poisons are generated by an unwholesome bacterial flora in the intestinal tract, the first impact is upon the liver and in that case at times, but not always, the hepatitis is more marked than the vasculo-renal change.

It is probably that the destruction of poisons reaching it through the portal vein is one of the most important functions of the liver. The study of this function and of the enormous possibilities for the production of poisons in the colon leads one to some very definite conclusions in regard to the diet, and points the way to increased efficiency. Among the many very interesting experiments made and published by the great physiologist Pawlow, of St. Petersburg, is one in which the portal blood is short circuited past the liver. It was found that such dogs after recovering from the operations would invariably die within three days o na diet consisting largely of flesh, while they remained in good health for an indefinite period if fed on a carefully selected non-flesh dietary. This remarkable experiment certainly offers a suggestion as to what would happen to some human being, if it were not for the friendly protection of their livers. It also explains some things, which we frequently observe in our contact with the sick, and especially does the experiment emphasize the fact that, contrary to advices so often heard, it does make a difference what one eats. That is to say, they may choose a diet which will, on the one hand greatly reduce, or on the other hand immensely swell the flood of poisons continually flowing into the blood stream from the alimentary canal.

The well nigh universal disease, constipation, coupled with the equally prevalent infection of the colon with types of micro organisms capable of producing virulent poisons, together with many common errors in diet, may be looked upon as one of the most important factors in the etiology of the degenerative diseases.

There remains to be mentioned those groups of poisons resulting from metabolism, which may become altered in amount or changed in relative quantity without vicious diatetic habits or other unfavorable circumstances, and may thus become exceedingly damaging to those organs of the body upon which their effect would naturally be most marked.

Of these poisons, uric acid, which is oxidised with difficulty and has a tendency to accumulate in the tissues, may be taken as an indicator of a type of poisons derived directly from the food ingested and creatinin may be taken as an indicator of proteid metabolism and a type of those derived from actual cell waste. Perhaps we should not dismiss the question of etiology without mentioning certain pungent oils found in much used condiments and which some observers believe have a part in the production of sclerosis.

Treatment—If we sum up the etiology of cardio-vascular reno-hepatic degenerative disease under the head of the complexities of modern life, meaning by that the excessive work, the mental strain, the disproportion between mental and muscular exertion, the unwholesome recreation, the unnatural environ-

ment, the three great drug habits, alcohol, nicotine and caffein—syphilis, focal infections, acute infectious diseases, bacterial toxines of intestinal origin, distorted or toxic dietaries, chronic metal poisoning, condiments and pernicious drugging, we shall easily discover means of preventative treatment, which need only the power of will to make them effective. It is necessary only to stop the rubbing of the shoe to prevent the callouses.

It is my firm conviction that a sacred obligation rests upon physicians to do all in their power to encourage the widespread application of the clearly indicated preventative measures which would result in saving hundreds of thousands of lives annually, and remove from us the horrible menace of race degeneracy.

And now a word in regard to the treatment of those already afflicted, and many such there are indeed! The nature of the pathological change, the process and the causes are such as to indicate that the only possible cure lies in a therapeutic application of the measures of prevention—a sane and natural mode of life with scientific feeding. Yet, strange to say, this very evident fact is quite generally ignored while medical men try to enthuse over iodine therapy, high frequency currents, radium, abdominal operations, or bacterial vaccines.

These may all be useful measures. Indeed, we know the effect of radium is marked in some cases and one may easily reduce blood pressure fifteen points in as many minutes on the auto condensation couch.

It is not possible, however, to effect a cure in any of these cases without dealing with the cause. This surgery may do in selected cases; but its scope is limited.

Why are we so loath to follow the plain path of therapeutic duty? Is it not, in part at least, due to the fact that our example is not such as to inspire confidence in our R/ for physiological living? Another reason perhaps is that, having already acquired a sort of disgust toward the term "Nature" in relation to therapy, we heard some one at a medical meeting use the expression "therapeutic nihilist" in a manner to cause us to resolve that we would never join that class.

Then comes the trained representative of a great pharmaceutical house and by the time he is through with his half hour's talk about his wares and "therapeutic nihilism" and has treated us to a few well directed and smiling expressions of disdain, we straighten up mightily, grow pompous and look wise in the possession of a new found "potent" remedy. We are re-wedded to the hoary fetish of the medical profession—"medicine," and no one shall cause us to step down from our dignity to consult the meek and quiet laws of nature.

We are almost ready to think we may construct a new world out of the magic elements of the apothecary shop—a world the physiology of which will be entirely different from that of the universe over which Jehovah presides.

Herbert Spencer said: "Every violation of the laws of health is a physical sin." Sin must ever meet its own reward. In Holy Writ we read: "The curse causeless, shall not come."

Despite all of man's devices the law of cause and effect, placid and irresistible as a glacier, moves silently on, and "whatsoever a man soweth that shall he also reap."

RADIUM IN UTERINE CANCER AND OTHER GYNECOLOGICAL CONDITIONS.

Charles C. Harrold, A. M., M. D., F. A. C. S., Macon, Ga.

It is not the intention of the writer to attempt in this short article to go minutely into any phases of the above subject. Space does not permit. I intend rather to call attention mainly to the indications and contraindications for the use of radium and to then tell what the drug may be expected to do.

Uterine Cancer.

Here the radium is unquestionably indicated in certain cases of cancer of the cervix and is practically never indicated in cancer of the body of the uterus. In cancer of the cervix it is unquestionably indicated in all advanced and inoperable cases. It is also becoming generally conceded now that it is also indicated in the borderline cases

where the surgeon hesitates to operate. In the early cases of uterine cervical cancer most gynecologists are still operating; that is doing the radical Wertheim operation. It is the opinion of the writer that within the next five years this will be changed and that all cervical cancers will be treated by radium.

Cancer of the uterine body is being generally operated upon and no one is advocating the use of radium. Here we know that we get a much higher percentage of cures with a much less dangerous operation with a low primary mortality.

With the cervical cancer the picture is entirely different. Here with the radical Wertheim operation we have a very high primary mortality—certainly over thirty per cent if all ceses were reported for Wertheim had thirty per cent in his first hundred cases and Kelly and Cullen report primary mortalities of more than twenty-five per cent with only about the same percentage of cures. In addition to this there are the distressing sequellae and complications of the Wertheim operation.

Contrasting with the discouraging picture of the Wertheim operation we have a very bright one when we begin to ask what can be accomplished by and expected of radium in these distressing cases. Take first the inoperable cases with large craters and foul bloody rotton discharges. After two or three thousand milligram hours treatment in the ulcerated area alone without going into the body of the uterus—the entire aspect of the patient and the cancer become changed. The bleeding stops—the foul discharge clears up—the excoriations heal—the urine no longer scalds and burns every hour of the day and night and frequently the rotton ulcerating mass is within one month replaced by smooth scar tissue with only a small sinus leading up into the uterus where four weeks ago we had a crater the size of a fifty cent piece. The patient regains spirit—puts on weight and color and resumes her work and duties. She is symptomatically and clinically cured.

The percentage of these cases that are cured in the five year group varies absolutely with the degree of involvement at the time of commencing treatment. It is a treatment with no mortality—with very little inconvenience and with a very few days stay in hospital. The border line cases of course do even better than the bad inoperable ones, and Janeway in New York General Memorial believes with the Italian and Spanish authorities in radium that in the early cases the percentage of absolute cure will run over ninety per cent.

Uterine Fibroids.

Here I think the field is very limited. It may be that with a half or a million dollar investment in radium one will get results in large fibroids. With the average doses of fifty to one hundred milligrams I think it foolish to attempt to remove large fibroids. Fibroids up to the size of a four months pregnancy can be handled and result obtained. Inflammatory trouble in adnexa is an absolute conera indication to the use of radium. The bleeding in practically any fibroid can be stopped by the use of radium and the patient thus gotten in good condition for surgical interference if such is indicated. Summing up—in fibroids—use only in small fibroids without pus tubes if you are trying to remove tumor. Use in any size fibroid if you are only trying to check hemorrhage.

Uterine Hemorrhage.

Uterine hemorrhage from practically any cause my be very easily checked and menapause brought on by doses of radium from five hundred to fifteen hundred milligram hours. Up to the present I do not know of anyone who is sufficiently sure of his dosage to be sure that he can correct a menorrhagia or metrorrhagia without bringing on the menapause, cases have been reported but are uncertain. The field of usefulness here is very large—is sure and is bound to increase in application.

Leucorrhea.

Unquestionably this can be corrected with radium as the cervical glands can be easily destroyed. In the cancer cases the discharges are absolutely stopped in a very short time. It has been suggested to the writer that in long standing chronic gonorrheal involve-

ment of the cervical glands we may find in radium a long felt want. So far I have seen no reports and have had no opportunity to try it out.

Cost of Radium.

The writer has become a strong convert to the use of radium and an ardent advocate of its use. I think that it would be a godsend to the women of cancer age in Georgia if every community of physicians got together and purchased enough radium to treat its own cancer cases—I mean skin and cervical cancers. It could be done at a cost of from six to eleven thousand dollars and would certainly gratify the men who are interested in it. I do not think that many men should have indiscriminate access to it as it does require some effort and practice to learn how to use it.

THE PRESENT STATUS OF MENINGOCOCCIC INFECTION.

Allen H. Bunce, A. B., M. D.
Atlanta, Ga.

Infection by the meningococcus intracellularis has been variously termed as, **meningitis, epidemic cerebrospinal meningitis, cerebrospinal fever,** etc. However, in the present state of our knowledge of the subject it seems to me, as suggested by Herrick, that the term "meningococcic infection" is more accurate and more appropriate.

The epidemics at the various camps afforded excellent opportunities for studying the disease and brought out certain phases in its onset and course which had hitherto not received the attention that their importance warranted. The unusual severity with which the disease manifested itself no doubt accentuated those phases so that they stood out more prominently in its syndrome.

While it is generally accepted that the meningococcus is carried in the secretions of the nasopharynx of patients and contacts, its mode of reaching the sites of the body where its presence gives rise to the pathologic manifestations are as yet to be definitely settled. Whether the meningococcus passes directly to the nervous system by way of the lymphatics between the nasopharynx and the meninges, or indirectly by way of the blood, has not yet been established.

The nature of the onset and course of the disease in some cases studied at Camp Jackson pointed to the probable existence of a systemic infection before the meninges were involved. The course of the disease seemed to divide itself into two periods, the preminingeal and the meningeal. The premeningeal was characterized by chills, severe toxemia and petechiae. The spinal fluid drawn during this interval was frequently clear, free from polymorphonuclear leukocytes, and contained few or no organisms. When organisms were found during this stage they had atypical morphology and staining characteristics. Some were not decolorized by the usual Gram stain technique During this stage Noguchi's butyric acid test for globulins was either faint or negative. Fehling's solution was reduced.

The progress of the disease in these cases which showed symptoms of a general toxemia previous to or coexistent with those of meningeal involvement suggested that as in other infectious diseases, as typhoid and pneumonia, we were dealing with a bacteremia which in its later course involved the meninges. That the meningococcus occasionally gets into the blood stream is borne out by the occurrence of lesions in various parts of the body from which we have recovered and identified the organism. These lesions have always been regarded as late systemic manifestations; and the occurrence of the organism in the blood even though it has often been recovered by blood culture was considered as exceptional. The early appearance of these lesions and the characteristics of the disease mentioned led the Clinical Staff at Camp Jackson, in cooperation with the Laboratory Staff, to use the intravenous administration of serum in connection with the intraspinal administration. An occasional positive blood culture during the course of the epidemic confirmed us in the belief that the organism, in the early stages of the disease, invades the blood. Later, further blood cultures were made.

When it is considered that the meningococ-

cus, under the most favorable circumstances, is an extremely difficult organism to grow artificially at first from the cerebrospinal fluid, and that a blood organism is highly parasitic, the percentage of positive cultures obtained would point to a much higher incidence than the actual figures would indicate. In the milder cases the number of micro-organisms in the blood are necessarily small; for this reason it is in the relatively severe cases, in which the number of organisms is large, that the positive culture is obtained. The occurrence of the meningococcus in other sites of the body has been pointed out. We must grant that this metastatic localization may follow the meningeal involvement, however, at the same time, it is equally possible that the occurrence of the organism in other regions than the meninges may be due to the systemic invasion occurring early in the disease.

In a series of routine blood cultures taken as soon as the provisional diagnosis was made and before the administration of any treatment we obtained 36.3 per cent out of 25 consecutive cases. Later reports from the same laboratory showed a much higher percentage with improvements in the technique employed. However, the first series there reported is the first recorded. In Base Hospital No. 43 in the A. E. F. we had opportunity to cultivate the blood in only six cases. In three of these we obtained positive results.

Antimeningococcic Serum.

The first notable advance in the treatment of this disease was the introduction and perfection of Flexner's serum. By this means the mortality was markedly reduced. However from 1908 to 1914 no further notable discovery was made with reference to the manufacture or administration of the serum. After the outbreak of the war Dopter of France collected 35 cases whose organisms were not agglutinated by any meningococcic serum available. Further none of them were benefitted by the serum. This led him to make further investigations which confirmed his belief that he had found an entirely new meningococcus, which was morphologically and culturally a true meningococcus but which differed in its serologic behavior from the known organism. He called this a "parameningococcus." About this time the Rockefeller Institute began again its investigations of the subject and the British government, confronted with many serious epidemics in its cantonments, appointed Gordon to study the subject. The result was Gordon's four types of the meningococcus and the Rockefeller's four main types and many subtypes. The reason for the failure of the serum, therefore, was that all the types causing the disease had not been used in immunizing the horses from which the serum was obtained. The British, therefore, began the preparation of univalent serums for each of the main types and a highly potent polyvalent serum to be given in all cases until the organism causing each particular case could be isolated and grouped. In America, on the other hand, we have continued to make only the polyvalent serum, but in its preparation all four main groups are used and as many of the subgroups as is found practicable. This was the second notable discovery in the treatment of the disease for, obviously, it is useless to give an antiserum which contains no anti-bodies for the particular organism causing a given case. On account of this fact, we would advise that where the serum of a particular manufacturer seems to give no results in a case this serum should be discontinued, empirically, and the serum of another manufacturer tried in the hope that it may contain more antibodies for the particular type of organism. The ideal method is to obtain cultures from the case and see if the bacteria are agglutinated by the serum which is being used, since agglutination seems at present to be the best and most practical method of testing the potency of the serum.

The third notable advance in the treatment of the disease was the introduction of the intravenous method of giving the serum in connection with the intraspinal which was at Camp Jackson, Base Hospital, under the leadership of Major Herrick in the Medical Service and Major Baeslack in the Laboratory Service. In the light of our present

knowledge of the subject no case is receiving the best treatment if it is not receiving the serum both intravenously and intraspinally

Epidemiology.

That the meningococcus is carried in the secretions of the nasopharynx of carriers and transmitted directly from one person to another is beyond dispute. The organisms do not live in the open air and it is not an air borne disease. They will die in a few minutes when on any material exposed to the air. However, it has been established in epidemics that about two people out of every hundred are carriers. These spread the disease more rapidly during the months when infections of the upper respiratory tract are most frequent. Hence, we must cease regarding the disease as epidemic and regard it as an endemic disease which may occur in epidemics.

Immunity.

There is no lasting immunity to the disease. We failed to find agglutinins in the blood serum of carriers and convalescents. Only one case out of hundreds examined showed any agglutination. This was a case which had had an unrecognized infection and which had recovered spontaneously, without any treatment. The immunity produced by the serum is very transitory. Major Herrick reports three or four relapses after the patients had been dismissed from the hospital and returned to quarters.

Conclusions.

1. Meningococcic infection is a systemic disease which manifests itself locally in the meninges, but which may attack other parts of the body and, in fact, may not involve the meninges at all.

2. The intravenous administration of serum is rational both from a scientific and practical standpoint.

3. By the combined intraspinal and intravenous—administration of the serum the greatest amount of antibodies reach the affected tissues of the body.

4. In obstinate cases the addition of fresh unheated normal serum, as suggested by Kolmer, to the antimeningococcic serum better results may be obtained, since this seems to aid in the destruction of the meningococci.

5. The disease is endemic and the clinician must ever be on the alert for its clinical manifestations.

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NEWS: Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to physicians. We shall be glad to know the name of the sender in every instance.

Editorials

OUR CANCER COMMISSION.

In other columns of the Journal will be found a report of the Cancer Commission of the Medical Association of Georgia. This report will be read with much interest and it should be accepted with a great deal of appreciation. The Commission, which is composed of some of our leading members, has not been a body in name only. It has worked diligently as the reports shows to accurately establish the correct status of cancer mortality.

Some of the figures are most interesting. It is shown, for instance, that cancer mortality has increased in percentage exactly what tuberculosis has decreased.

Briefly summarized, the following points should be taken as good food for thought:

First: What education has done for tuberculosis etc , it can do for cancer. The death rate from tuberculosis has decreased 29.8 per cent, while in cancer it has increased just 29.8 per cent since 1900.

Second: Cancer causes the death of one female in ten, and one male in twenty at all ages. It causes the death of one female in eight, and one male in fourteen at the ages of forty years and over. Ten people die in the United States every hour from cancer.

Third: Cancer of the mouth and tongue is more prevalent in men than in women. There are definite precancerous conditions and predisposing causes, which if properly cared for will almost eliminate cancer of the mouth.

Fourth: Cancer of the digestive tract is about equally divided between the two sexes. Forty thousand people died of cancer of these organs last year. Persistant indigestion, gall stones and other definite symptoms

point strongly to cancer. The death rate can be greatly reduced.

Fifth: Cancer of the breast caused the death of ten thousand women in the United States last year. A definite lump in the breast means cancer in 83 per cent of women over thirty-five years of age. There is pain in only 9 per cent of cases.

Sixth: Cancer of the womb caused the death of sixteen thousand women in the United States last year. At the present time statistics quoted by James Ewing, of Cornell University, show that only about one per cent of women with cancer of the cervix are permanently cured, because they do not seek medical attention in time.

The Commission is composed of:
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The Association and the profession as a whole owe these gentlemen a deep debt of gratitude.

BOOK REVIEWS

MODERN SURGERY. Eighth edition, John Chalmers DaCosta, M. D., Professor of Surgery in Jefferson Medical College, Philadelphia. W. B. Saunders Company.

For more than a generation DaCosta's Modern Surgery has been justly looked upon as the leading text-book on the subject. Two reasons may be given for this, first, the completeness of the work, and second, the admirable style in which it is written. No other single volume on surgery covers such a wide field. With its 1700 pages and condensed, though ample text, it is an encyclopedia. Some matters are covered which do not appear in works claiming to be encyclopedic. There are other good text-books on surgery, but none which covers the subject so thoroughly, either in America or England.

Dr. DaCosta has for many years been considered one of the best teachers of surgery in the country. We are fortunate in that he possesses the faculty of putting this rare quality into his writing. For this reason his book is especially valuable to the medical student. DaCosta's habit of using the imperative mood has an impressive and lasting effect on the mind. He does not say "maybe" or "perhaps," but he says, "do this," or "do that." It is not surprising that for nearly two decades this work has been the most popular text-book among the medical colleges of the country.

The new eighth edition shows the most radical revision of any edition published in many years. The science of medicine advances so rapidly these days that it is difficult to get out a general text-book which will omit absolutely everything which is more or less obsolete, and give only that which is the last word on every subject. DaCosta strikes happy ground in this respect, and offers a volume with a minimum of old things, and a maximum of new. The new ideas and methods taught by the war are well covered. Truly if one were compelled to limit his surgical library to one volume, there could be no hesitation in choosing this book.

ABSTRACTS

LATE RESULTS OF SUPPOSEDLY SUCCESSFUL OPERATIONS ON THE DIGESTIVE TRACT.

Thomas R. Brown, Journal of the A. M. A., Nov. 15th.

Dr. Brown remarks on the changes that have occurred in the past twenty years in our knowledge of diseases of the digestive apparatus, giving much commendation to both the surgeon and physiologist. However, he claims there has arisen in the minds of most patients, many clinicians and more than a few surgeons the idea that the knife is the sole agent of therapeutic value in this field.

"Yet, especially within the past few years, there has been a growing feeling that although a condition may be fundamentally surgical, such that sequelae may develop which nullify the good effects of the primary operation; and there has been a noticeable lessening of enthusiasm for the surgical treatment of organic gastro-intestinal lesions notably, of course, those of a chronic nature, for obviously in the severe acute lesions such as acute appendicitis, perforated gastric ulcer, repeated attacks of gallstone colic, empyema of the gall bladder and acute intestinal obstruction, immediate surgery is the one and only safe mode of treatment."

"Why is this? There can be but one answer, and that is, that notwithstanding the brilliant early results of surgery in most of the acute and many of the chronic digestive lesions there is a realization that the late results in these cases are often far from ideal, and that the second state of the patient may be no better and even worse than the first, owing to postoperative adhesions or partial obstruction with a recurrence of the same or development of new symptoms or other causes."

After all, it is to the internist rather than to the surgeon that the patient returns if the results of the operation are not so successful as expected—or often as promised.

"It is, in fact, the skilled clinician who should in the chronic—not the acute—conditions be the final judge as to whether treatment should be medical with its accessory dietetic and physical aids, or surgical; although even now the clinician's hand is often forced by the patient's insistence on the apparently quicker surgical route, although in our experience this enthusiasm for surgery on the part of the laity is very markedly less than it was five or even three years ago, obviously because there is a gradual dawning realization that, after all, surgery is a two-edged sword, and is not omnipotent in the prevention of post-operatives adhesions or a catarrhal intestinal condition which may nullify partly, or in whole, the success of the operation per se."

"There are many conditions, as, for example chronic appendicitis, various forms of abdominal adhesions, as those associated with chronic appendicitis, former attacks of gastric or duodenal ulcer, pericholecystitis, as well as that large and evergrowing group of post-operative adhesions in which the tendency has been to operate—especially on the part of the patient, and the clinician, and when the surgeon is often by far the most reluctant of the three, in which surgery should be resorted to only as a last resort—for in this group of cases we have the greatest chance, even with the best post-operative care, of the formation of new adhesions with the reappearance of the old or other symptoms. No one who has studied this group of cases thoroughly can have failed to note that there are certain individuals in whom adhesions are peculiarly likely to form, however rigorous the operative technic."

"Rest—that most potent of all medicaments in gastrointestinal therapy; elimination of foci of infection; local heat or cold; posture; supports; an appropriate diet, sometimes soothing, sometimes stimulating; massage; exercises; medicines, antispasmodic, lubricating, tonic, oil instillations;

irrigations—all of these should be tried conscientiously before one thinks of surgical treatment, for these are the cases that test the stuff of which the physician is made; if he realizes that, to get results by medical and physical means, time is essential, that the patient, while being encouraged, should be made to realize that improvement must, of necessity, be slow, possibly taking many weeks, oftener months; and if he can get a real appreciation on the part of the patient of the underlying principles of the treatment and his hearty co-operation in carrying it out, then he will, indeed, be able to get good and often brilliant results in this most difficult group of cases, and to realize that, after all, the organic, which is fundamentally surgical, we freely admit, was playing but a minor role or possibly no part, in the causation of symptoms, and that by correcting the functional disturbances associated with it the patient became so nearly well that he was unconscious, or almost so, that any organic lesion was present."

"In cases of gastric carcinoma I have always felt that far too many patients are operated on, when the abdomen is simply opened and closed, merely to confirm a palpably obvious diagnosis, but that if an operation is performed, far too many surgeons are willing to make extensive resections in the one hope or really producing radical improvement. In fact, for many years my feeling has been that surgery of the chronic lesions of the upper right quadrant has been so likely to have an unsatisfactory aftermath that I have been delaying operation further and futrher and trying other forms of treatment longer and longer, sometimes with almost complete or partial success, oftener, I am free to admit, with final recourse to surgery after all."

"As regards post-operative treatment in abdominal surgery, I feel very strongly that a far closer association between surgeon and clinician is essential to get the best results for the patient. The surgeon is not trained in dietetics; he is singularly prone to follow a routine in the post-operative management of his cases, and this lack of individualism is often productive of deplorable results."

"For instance, in cases of reflex hyperacidity and pylorospasm secondary to a diseased appendix, the gastric symptoms persist long after the appendix is removed, and a nonirritating diet with alkalis and antispasmodics may be necessary for many weeks. Yet, how often do we find our patients eating salads and acids on the fifth or sixth day because they are told by the surgeon that 'the only trouble was with the appendix, and they could eat anything now that it had been removed'."

"The conclusions that have come to me from these many years of intensive study of this peculiarly difficult yet wonderfully interesting field are, in summary:

1. The surgeon has been too prone to believe in the success of treatment of abdominal lesions because of the brilliant success of surgery for acute abdominal conditions and to the apparent early cure of many chronic conditions when, however, some of the improvements must be ascribed to rest, careful nursing; change of environment, diet, and other adjuncts to successful hospital treatment. If, after a few months, there is a return of the same or the development of new symptoms, the surgeon is often not cognizant of them, for it is to the clinician and not to the surgeon that the patient is likely to return with his complaints.

2. Some failures are to be ascribed to a definitely wrong appreciation of the real underlying pathologic process, as notably in the case of the so-called chronic appendicitis met with in cases of visceroptosis of marked degree and of long standing; and here the operation falls into the same category as that of many cases of fixation of the kidney, or suspension of the uterus, in which symptoms are ascribed to these abnormalities quite out of proportion to their true pathologic significance.

3. In many cases, partial or complete failure may be converted into partial or complete success by a clearer conception on the part of the surgeon of the underlying pathologic physiology, for in none of these abdominal lesions is it safe to rely on the correction of the morphologic changes done. Without a realization of the accosiated and

often quite persistent functional disturbances, what should be a successful operation is often a failure. A proper diet determined in each case individually; the utilization of posture, purgation and massage to minimize adhesion formation; the choice of medication appropriate to the motor and secretory disturbances associated with the organic lesion—all these measures add immensely to the chance of a successful issue in this group of cases. While the clinician is unquestionably too prone to ascribe too much to functional disturbances, the surgeon, on the other hand, is far too likely to be guided by morphologic changes alone, and it is only by a proper balance between these two in our conception of the disease process and its consequent therapy—surgical and medical—that the optimim result can be obtained.

4. There is far too great a tendency to plunge too soon into surgery in the treatment of chronic and subacute abdominal conditions, and far too little enthusiasm for persistence in medical, dietetic and physical therapy in these cases before having recourse to surgery. Until methods have been devised absolutely to eliminate adhesion formation or operations evolved which can absolutely duplicate the normal physiology —if not the normal anatomy—of the various abdominal viscera, surgery should not be our first choice but should be the dernier resort, only to be employed if skillfully directed therapy along nonsurgical lines has been tried conscientiously and over a sufficiently long period of time to prove that it is absolutely unvailing.

5. And this, after all, is really the motif of this paper: Real success in this most difficult field can only be obtained by a far closer reapprochment between surgeon and clinician; the internist should be present at every operation on his patients; the surgeon will be able to compare operative findings and preoperative clinical data, and the clinician's advice should be of help to the surgeon in the choice of the operative procedure. On the other hand, the visual demonstration of the pathology of the disease to the clinician should be of inestimable value to him in his future study of similar syndromes; the clinician with his knowledge of the previous functional digestive disturbances of his patient should co-operate with the surgeon in the management of the postoperative and convalescent period, and with his greater training along these lines, should direct the diet, medication and physical therapy, always, of course, in collaboration with his surgical confrere. The clinician, on the other hand, should keep the surgeon posted as to the subsequent history of the patient, and, if symptoms do recur, should not neglect, either through forgetfulness or tenderheartedness, to notify the surgeon of the fact. For, after all, the object of each is the same—to bring health to the patient—and it is only by far closer co-operation and a far greater appreciation on the part of each of the role that the other should play in the management of this group of cases that we shall be able to reduce to the irreducible minimum the failures—a really appalling number in toto—in cases which have been regarded as successful examples of the surgical treatment of abdominal diseases but whose subsequent histories often altogether unknown to the surgeon—absolutely nullify this belief."

This thoughtful paper by Dr. Brown is worthy of consideration both by the surgeons, the general internists, and especially those paying special attention to the digestive tract and its manifold ills. Wise surgery, skillful surgery will continue to hold its place of esteem in the alleviation and cure of **material** pathology of this tract, but unless preceded by thorough and painstaking clinical study, followed up by appropriate dietetic care, suitable hygienic measures, and such medication as may be rationally indicated, a depressing number of unsatisfactory **late** results will continue to appear in evidence.—Niles.

DIRECT LARYNGOSCOPY IN ONE HUNDRED AND EIGHTY-NINE CASES OF CROUP.

By Robert W. Gover, New York. (Archives of Pediatrics.)

The author is on the resident staff of Willard Parker Hospital, one of the contagious hospitals of the Health Department of New York City, which hospital probably handles more cases of this kind than any other one institution in the United States and therefore has abundant material for such research work. His article does not deal with the general diagnosis and treatment of diphtheria. As any rational procedure which tends to prolong or eliminate intubation, is well worth while, this method he describes should be of considerable value in such cases, particularly so as it is established that intubation decidedly increases the probability of broncho-pneumonia complicating disease, in addition to the occasional accidents of plugging, etc., of the tube. He points out the advantage of such method of ascertaining whether the stenosis of croup is due to membrane or oedema, and the exact extent and location of either. As it has been felt in the past that many of the croup cases were not diphtheria but simple catarrhal laryngitis, this method was adopted with an attempt to differentiate. This method also permits the taking of cultures from the exact location of the causing factor of the stenosis. No difficulty was experienced simply with the aid of one assistant and a mummy dressing, and the Johnson position was used. Where membrance was found in the larynx it seemed much thinner and less firmly attached than in the nose or fauces, and in many cases was very loose. Only very loose membrane was removed, and this always gave relief which was in many cases permanent. Of the 112 cases showing membrane in the larynx, 3 were subsequentl6 intubated, while of 77 not showing membrane, only one was intubated, and that one showed slight ulceration as if there had been membrane present. This method of examination did not influence the administration of antitoxin, but did influence time of intubation, as it showed that one could with safety delay this procedure longer where there was no membrane in the larynx. The advantages to be gained by direct laryngoscopic examination are: 1. In deciding as to the administration of antitoxin in a case of croup that presents no membrane in the fauces. 2. The necessity of establishing quarantine, immuning or Schiek testing contacts. 3. To avoid mistaking a foreign body in the larynx for croup. 4. As for necessity for intubation, one may with safety wait for much more marked symptoms of obstruction in a catarrhal croup than in one of the membranous type. 5. The occassional removal of large pieces of loose membrane with permanent relief.

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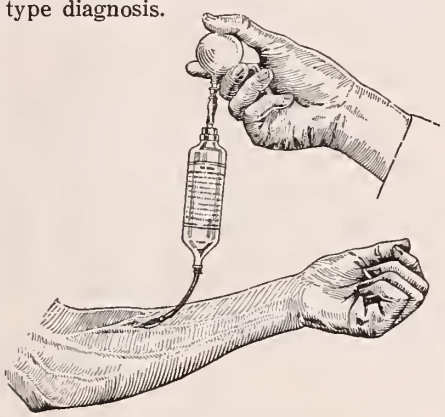
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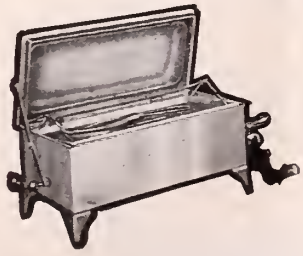
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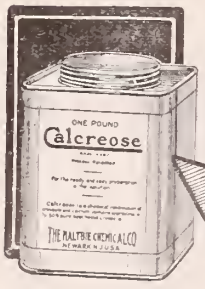
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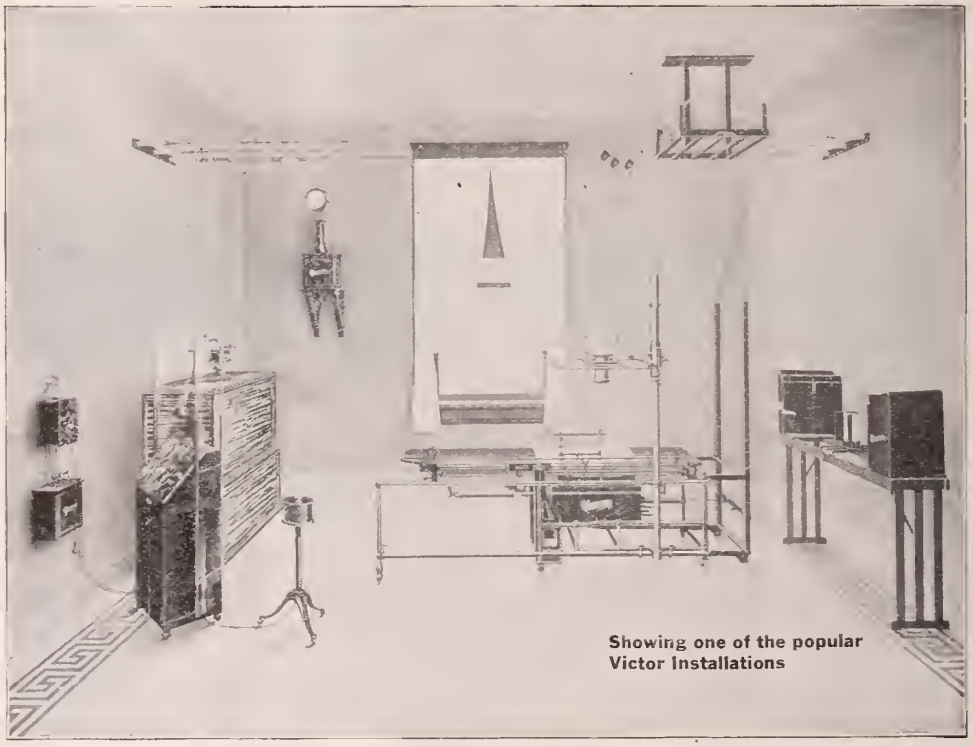
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ORIGINAL ARTICLES

DIGITALIS ADMINISTRATION.

By Wm. C. Pumpelly, M. D., Macon, Ga.

For many years digitalis has been recognized as a valuable remedy in the treatment of heart disorders and a very great amount of work has been done in the laboratories and hospital wards to determine its pharmacological properties but we are still far from recognizing its effects and appreciating its proper sphere of action.

In the administration of digitalis, a great deal depends upon the nature of the disease present. In auricular fibrillation, perhaps, the most marked effect is seen; when administered in proper doses, slowing the heart rapidly and in the course of a few days, doing away with a considerable pulse deficit. In acute heart exhaustion from whatever cause, whether or not associated with auricular fibrillation, digitalis has a most happy effect. By diminishing the rate and allowing the heart to recover.

When the heart rate is moderate, 70-90 beats per minute, and in the absence of signs of venous congestion, digitalis is not needed, but when there is dyspnea, orthopnea, venous congestion with increased rate, it is of greatest value.

It is my custom in these extreme cases of heart failure to give first a hypodermic of morphine and start with digitalis in dram a day doses, dividing it up into 15 minimum doses every six hours; 15 minimums being equivalent to thirty drops. However, in extreme cases this dose may be exceeded. I prefer a standardized tincture, though the powdered leaf is perhaps less liable to produce nausea. This dose of digitalis I continue until I get a marked slowing of the pulse.

The toxic symptoms of digitalis with the exception of nausea do not occur until the drug has exerted its full effect upon the heart. This slowing of the heart rate generally takes effect in from 2-4 days, when the dose of digitalis can be gradually reduced, provided the other conditions of treatment such as rest, intetinal elimination, etc., are being properly carried out.

It is very gratifying to note the gradual replacement of the flabby apex impulse of the dilated heart by a more forceful and healthy impulse; the return of the presystolic murmur and thrill in auricular fibrillation in hearts with mitral stenosis; the increase in the intensity of the second sounds, especially the aortic; and the return of the blood pressure to the patient's normal; and these are things to be watched and be guided by in determining the proper doses and the time for lessening the dose or discontinuing its use.

It is always to be borne in mind that when a heart returns to normal or near normal function, it no longer needs digitalis and harm may result from its administration. This is especially true in decompensation, secondary to arterio sclerosis and contracted kidneys, where kidney blood supply is so important a factor in maintaining nitrogen elimination. A pause of extreme brevity in diastolie is enough to increase greatly the strength of the following systole, but this increase in force does not keep pace with the rapidly decreasing rate and too quick slowing of the heart with a consequent decrease in the volume of the blood reaching the kidney may induce a state of uremic intoxication.

The action of digitalis is presumed to be directly upon the sino-auricular node, whether or not through stimulation of the vagus and over administration of the drug with too severe an inhibiting action on this mechanism may greatly disturb the impulses distributed through the auriculo ventricula bundle and a new rhythmn be set up.

Besides the well known digitalis block; dropping out of ventricular sytoles or extra

systoles, a profound disturbance of rythmn may result producing absolute arrythemia and the alarming pulsus alterans, or an auricular fibrillation which may become ventricular producing sudden death. The drug is indicated and should be administered in the following condition: auricular fibrillation, auricular flutter, paroxysmal tacchycardia and heart exhaustion from whatever cause where the pulse rate is markedly increased and signs of venous stasis are observed. It should be given in full doses at first and the decrease in pulse rate should be the principal guide in decreasing the dose and discontinuing its use. A safe rule is to never give digitalis with the pulse below 72; it is to be remembered that high blood pressure is ever contra indication in the use of digitalis.

We have not as yet established a satisfactory relation of the action of digitalis to the heart and the kidney. In some cases where there is marked dropsy, digitalis seems to have a very beneficial diuretic effect and occasionally, apparently less effect upon the heart. However, I think in the present imperfect state of our knowledge regarding the action of digitalis, it is safer to consider it in the light of a cardiac rather than a renal drug.

THE IMPORTANCE OF UROLOGICAL EXAMINATION IN ABDOMINAL DIAGNOSIS.

By G. Y. Massenburg, M. D., Macon, Ga.

How often a wrong diagnosis is made is frequently found at the operating table; more often found when the patient returns to their home after operation to have a return of the same trouble with which they had previously complained. And again to have some thorough internest or surgeon after a most careful and exhaustive examination to operate for the real condition.

I heard a physician of our community say when one of his cases came to post and he discovered he had made a wrong diagnosis "That is the first case I have ever fallen down on." It was probably the first of his cases that had ever been posted. Sir William Osler once said that he made a correct diagnosis in about 60 per cent of his cases as shown by post mortem examination. There are too few autopses and a snap-shot diagnosis is sufficiently satisfactory too often. When such an illustrious figure in the medical profession is unable to make a correct diagnosis in 1-3 of his cases, it behooves us to leave no stone unturned in search of additional data that one might not err in one's judgment.

A complete history should be taken, carefully inquiring into the family and past histories and a most accurate detail of present illness; Eusterman of the Mayo Clinic thinks that a thorough history in abdominal diagnosis more valuable than any other one thing at our command in an effort to avoid mistakes. A complete physical is most essential and how many men ever do a complete physical. Just a few days ago an out-of-town patient who had consulted several physicians in a period of a few weeks for an abdominal pain but had been unable to get relief, came to consult a most thorough and painstaking associate and in the routine of a complete examination he found a dark line in the gums an immediate clue to his condition. Further examination showed the case to be one of lead poisoning. The failure to examine the mouth of this patient was undoubtedly the cause of the mistaken previous diagnosis. Again just the failure to examine the eyes for Argyle Robinson pupils, and the reflexes has been the cause of more than one individual being operated for some abdominal lesion when Tabes Dorsalis might have thereby been recognized.

It was the failure to find or having to sufficiently investigate the source of a small amount of pus in the urine that caused a patient to be operated for appendicitis and then have a repair and suspension done, when a diseased non-functioning kidney on the left side caused a referred pain to the right of the abdomen. I will give a short resume of her history:

Mrs. J. L. W., age 20, white, nurse. March.

F. H.—Unimportant.

P. H.—Rheumatism right shoulder 1 yr. ago (?). Sore throat several times in the past few years. 2 children; hard labors with

laceration. Appendectomy, suspension and repair done.

P. I.—She has had a pain in her right side for several years, in the region to the right of the umbilicus; onset gradual; constant induration, more at menstrual period, never extremely acute. Shortly after returning to her home following the previous operation, she had a chill followed by fever and thinks she has had fever ever since; vomited only once when she was first taken. Temperature usually normal, occasionally 99-100.

P. E.—Abdomen slightly rigid and tender throughout, though more marked in the upper right quadrant and very painful to deep pressure under the right ribs. No increase in leucocytes. Urine showed some pus cells in catheterized specimen and a trace of albumen; negative for tubercle bacilli.

May 6th.—Cystoscopic examination—bladder appears normal. Left ureteral orifice slightly reddened, the right pale. Left functionated well; the right not seen to functionate. Ureters catheterized; right flowing normal, left no flow but a small amount of pus and some mucous-like substance with some brown debris.

..**Kidney Function.** — Phenol-Sulphone-Phthalein:

Appearance time not noted.
Right kidney first hour 22 per cent.
Right kidney second hour 12 per cent.
Left kidney first hour none.
Left kidney second hour none.
In the bladder at the end of the second hour 4 per cent.
Pelvic capacity right 14 c. c.
Pelvic capacity left 80 c. c.
Injection in the left kidney reproduced the pain from which she had been suffering.

X-ray report.—Region of the left kidney shows some opacity which may or may not be due to pus in the kidney but which gives the X-ray evidence of pus.

June 5th.—(Nephrectomy.) A large cystic kidney filled with a semi-plastic brownish black amorphorus substance showing the presence of hematin. There was no kidney substance to be made out but was replaced by a very thick fibrous capsule. There was no macroscopic pus.

Sept. 23.—(A little over 2 yrs. later).—She says she has been completely relieved of the pain in her right side since the operation. She has a slight bulging and weakness of the abdominal wall in the region of the healed incision. She also has a retroversion. I do not know the type of suspension that was done.

I feel sure the pain for which she was first operated was caused by the kidney. The amount of pus in the urine was not abundant but in an effort to explain it, we found the cause of her morbidity.

The inferior renal ganglion of the sympathetic system supplies the kidney, ureter, ovary and testicle—the reason we have the typically referred pain of Dietls crisis from the lumbar region over the course of the ureter to the ovary or testicle, but we also frequently find this pain referred to the back or possibly down the leg and other parts of the abdomen. The sympathetic system of this region supplies branches to the sensory roots of the lower dorsal and lumbar nerves and for this reason there occasionally arises a kidney, ureteral, or, a vesical lesion, the symptoms of which are most atypical.

I am now treating a case that for several weeks has had pain in upper right quadrant of the abdomen and in the lumbar regions of the back with a moderately severe cystitis. Cystoscopy revealed a severe trigonitis with a positive culture of a streptoccus from the bladder, while catheterization of the ureters showed both kidneys to functionate normally and culture of the urine from each side negative. Under treatment through the cystoscope, irrigations and bladder instillations, all symptoms have about cleared up, there remaining only some microtascopic pus.

A movable kidney and hydronephrosis of the right side may interfere with the common duct and cause jaundice; so may it partially obstruct the duodenum and cause gastric symptoms. These, of course, are rare. Less uncommon, however, is to mistake a hydronephrosis or ureteral stricture for appendicitis. Indeed the possibilities are manifold. Through cystoscopic andurological studies, including careful examination of catheterized specimen of urine; in-

spection of all parts of the bladder, catheterization of the ureters; the study of separate urine from both kidneys; waxed tipped catheters for stone and strictures of the ureters; kidney function test, including appearance time and separate kidney study; injection of, reproduction of pain and ascertaining the capacity of the kidney pelvis; pyelography; and X-ray examination will give us a splendid picture of the condition of the urological organs and often illuminate the obscurity of many difficult cases.

Let thoroughness in striving to avoid mistaken diagnosis be our motto.

MENTAL HYGIENE.

By W. L. Funkhouser, M. D., Associate Professor of Medicine, Pediatric Department Emory University, Atlanta, Ga.

Hygiene in relation to the physical man is reasonably well observed and practiced by the average doctor. The laity are enlightened to a considerable extent. We, as physicians have neglected our own development in the most important subject of mental hygiene, having relegated this branch to the educator and allied workers. Medical inspection in the schools has done much to bring the educator and the medical profession into a closer relationship, regarding the welfare of the child physically and mentally. The average physician has left it to the psychologists and psychiatrist the problem of the mental welfare of the child, but we must face the facts that this problem is not only for those who are practicing psychologist and neuroglical conditions but it is a duty for the general practitioner, the fathers and mothers of this country to understand and to co-operate for the best interest of the child, our future citizen.

The industrial world has found out that the right man in the right place is essential, that time lost in getting a man who does not fit is costly; that a man who remains at his work for a short time is money practically thrown away. To solve this problem the Metropolitan Life Insurance Co. (one of many such corporations) requires all applicants for first class service to obtain a mental average of 75 per cent before being passed for physical qualification. Their figures are startling. Out of 1,443 candidates mentally tested 604 passed, and 839 failed. What is to become of this large class who are found incompetent for first class service? It is a closed issue as far as the industrial world is concerned but not for society. They are thrown on the community. What is their mental attitude? There follows discouragement and discontent. Probably not realizing that he is a misfit, there is a sullen resentment against the world and a feeling that places him out of harmony, driving him to alcohol, insanity, criminalistic views and finally become a charge on the state.

Is this not possibly a factor in the growing discontent of our country today? If this is true how can we protect ourselves? The government must recognize that economy, effectiveness and national peace depends on the success with which we are able to provide suitable employment for men of all grades of capacity. Now is the time to take stock of our national assets and liabilities. It is the human material of which this nation is to be builded. If our material is knotted with criminalists taints there will be nothing but sorrows and waste. What should determine citizenship? Chronological age of twenty-one with a mental age of five? Should a man of thirty-five with the mental age of ten, with a criminal taint that unfits him for society be permitted to control the destiny of state by a vote? Should we not teach the public to look upon inebriety, alcoholism, pauperism, criminalism, prostitution, insanity just as much a disease as smallpox? We do not hesitate to take away the liberties of a man with smallpox for the protection of society, neither should we hesitate to take away the liberties and protect the state from future criminals by colonizing confirmed criminals who on examination are found to be mental defectives.

One of our nation's cherished ideals is that every individual has a right to dispose of himself as he pleases. This is true so long as he does not interfere with the rights of a fellow citizen. It should be carried still further to include the citizen of the future Should we recognize the right of a feeble-

minded man or woman with the mentality of five or ten years, to have a family from eight to ten children, they themselves of lower mental type than either father or mother, to become state charges, to fill the orphanages, the penitentiary and almshouses? This is the problem we are facing today and one which we should carefully consider as one of the problems in Mental Hygiene.

Suppose we take stock now. Let us hastily run over the definition; then let us analyze the report of Georgia Commission on Feeblemindedness and see the status of our own beloved state. We, as citizens of this state and the custodians for future generations should realize our responsibilities to ourselves, to our children, to our children's children. It is only by the study and appreciation of the vital issues at stake that we are able to spread abroad the information which will have as its terminal factor the correcting of this great error in our state and in our nation. Feebleminded is "a state of mental defect, existing from birth, or from an early age, due to the incomplete brain development, the consequences of which, the person defective is unable to perform his duties as a member of society in the position of life in which he was born." A feebleminded person is therefore, so defective in mentality that he is incapable by reason of this mental defect of receiving the proper benefit of an ordinary elementary public school education. This is not due to poverty or lack of opportunities, of training or education but it is the deficiency in the mental makeup of the individual. There are three classes of feeblemindedness, the idiot, the imbecile and the moron. The idiot is so defective that he does not possess sufficient mentality to avoid ordinary physical dangers. The imbecile is higher mentally than the idiot but never exceeds the mentality of a child of seven years, he is able to avoid ordinary physical dangers but can never be self-supporting. The moron is higher mentally than the imbecile but he doesn't exceed the normal child of twelve, he is able to avoid physical dangers, capable of being self-supporting but is not able to manage himself and his affairs with prudence. He hasn't sufficient judgment to compete on equal terms with his fellows.

In the study of feeblemindedness and mental hygiene the next step is to understand that it bears relation to pauperism, dependency, vagrancy, prostitution, juvenile vice, adult crime, delinquency and finally has a bearing on education. Dr. Anderson found in the state of Georgia that 40 per cent of the inmates of the almshouses investigated were feebleminded. Feebleminded families were found who had been supported by the church or organized charities for four or five generations. He shows that feebleminded families are allowed to live in communities propagating their kind, leaving behind them a long progeny of feebleminded to be a care on the state, either in asylums, orphanages and penitentiaries. 28.7 per cent of the children in orphanages are feebleminded. The male inmates of the State Prison Farm at Milledgeville examined showed 17.5 per cent feebleminded. 42.8 per cent of the women of the State Farm were found feebleminded. Is it feasible to return this large per cent to the community to be returned again and again or to propagate his kind in our state? 34 per cent of the inmates of our jails were found feebleminded with a mental level of a child of ten years of age or under. Of the immoral women examined 43 per cent were found feebleminded. Do we accomplish any thing by treating these girls for venereal diseases then returning them on the community to acquire it over again. 17 per cent of the children in the Juvenile Court were found feebleminded. 15 per cent of the Fulton County Reformatory for boys were found feebleminded. 24 per cent of the inmates of the State Reformatory for boys were found feebleminded. 27 per cent of the inmates of the Georgia Training School for girls were found feebleminded. It is these feebleminded delinquent children who are later to fill the jails, our adult criminal court and our State Prisons. It is estimated that even of our school children 3.2 per cent are feebleminded. That which is true of Georgia has been true in all states having the foresight to want to know the truth.

Having taken stock, appreciating the

problem we have before us, it is necessary for us to study with care, a relief for our present situation and to lay a foundation for the protection of our future children. Do we realize that the native stock of our country is gradually decreasing? Do we understand that the feebleminded women have twice as many children as the normal mother? Do we realize that birth restriction among a class better mentally and financially able to add to our national asset is on a decided increase? These coupled with the above percentage of feebleminded now existing in our community, numbers of them to be thrown upon us as citizens, having equal rights, privileges with those who are mentally sound; we have a problem which we must look upon with a great amount of seriousness. We must not only plan for those now among us but we must consider the problem for the future.

Our legislative body realized this crisis after the report of the Commission. In the face of the demand for restriction in appropriation, they appropriated $100,000 for the establishment of a training school and a home for feebleminded children to make them self-supporting rather than criminals, to make them an asset to our commonwealth rather than a liability. There should be closer co-operation between the alienist, the physician, the educators, psychologists and psychiatrist. There should be opportunities given for studies by full time professors and their findings disseminated to the public. All phases of the subject should be gone into, even to the extent of revolutionizing our present educational system.

We are entering the era of preventative medicine. One of the greatest steps in medical progress was the abolition of the so called gun shot prescriptions. A hunchback today is looked upon as a living example of neglect, of either the mother or physician in not recognizing an early Potts disease, as also should a child who develops a mental or neurotic trait which could have been prevented by a careful study of the life and habit of the child during his developmental period. The public is demanding of the doctor today to keep him well. We cannot keep an individual well without personal hygiene. To be well mentally should we not have just as much consideration for Mental Hygiene?

We have not entered the realms of the neurotic mother. Temperment and its relation to the mental development, environment in which a child is placed, has much to do with the child's future state. We have as a problem all phases of mental development of a child, from the standpoint of disease, inheritance, environment, neurosis, all of which falls upon us, the custodian of the child.

In presenting you this paper as food for thought, burn into your mind the title of a paper recently written by Dr. Bailey of New York: "Efficiency and Inefficiency a Problem in Medicine."

"We talk of our breed of cattle,
And plan for a higher strain,
We double the food of the pasture,
We heap up the measure of grain;
We draw on the wits of the nation,
To better the barn and the pen;
But what are we doing, my brothers,
To better the breed of men?"

—Miss Rose Trumbull.

THE IMPORTANCE OF EARLY CORRECTION OF CLUB FEET.

Theodore Toepel, M. D., Atlanta, Ga.

The four principal varieties of club-foot are: (1) Talipes Equinus; the foot nearly in line with the leg and patient walking on tip-toe, the natural position in the horse. (2) Talipes Calcaneus, the opposite condition, i. e. walking upon the heel with the foot dorsiflexed. (3) Talipes Varus: the anterior foot inverted and adducted, so that the patient walks upon the outer border. (4) Talipes Valgus: the opposite condition, in which the anterior foot is everted and abducted, the weight in walking being thrown upon the inner border of the tarsus.

Compound varieties: Equinovarus: plantar flexed and inverted. Equinovalgus: plantar flexed and everted. Calcaneovarus: dorsiflexed and inverted. Calcaneovalgus: dorsiflexed and everted.

Causes.—(1) Congenital; (2) acquired from paralysis, traumatism, etc.

1. Congenital Club-Foot.—Talipes occurs in about one in one thousand births. Congenital club-foot is about one-third as frequent as the acquired form. The Congenital deformity is more common in males than in females and both feet are affected as frequently as one. The equinovarus deformity supplies 80 per cent of congenital varieties.

Various theories have been advanced to explain the existence of congenital club-foot, but none of them have been proven. A reasonable theory would seem to be that Intrauterine Traumatism from abdominal blows or even from a violent ciotion during the first month while ovum is plastic, has resulted in such injury to the embryo's central nervous system that controlling or **Governing Power of Formation** has been parctically lost and that muscular weakness or irregular contraction has followed, or that some arrest of development has occurred. Weakness of certain muscle groups and too vigorous contraction of others are often positive at birth. **Serious Fright**, great nerve shocks or lightning strokes may in the same way affect nerve supervision of fetal formation. It is in this way alone that material impressions during the early months could affect development ;all other reports of maternal impressions are vague and exaggerated.

Diagnosis.—Diagnosis in the congenital variety is not difficult, the only question being as to the extent and rigidity of the deformity and its effect upon prognosis.

Prognosis.—The probability of a complete functional and cosmetic cure of a case of congenital club-foot will depend upon the degree of deformity, the flexibility of the foot, the age at which treatment is commenced and the perseverance of the surgeon, mother and nurse. **With proper treatment commencing at birth ordinary infantile cases should be practically cured in the first year** with full functional results.

When treatment has been delayed, moderate cases of deformity can be made functionally perfect in degree corresponding to the amount of distortion, rigidity and muscular disability, and in response to long continued manipulation, muscular, mechanical and operative treatment. Adolescent and adult cases can be made by operative treatment to walk on the soles of their feet, but function will be impaired.



No. 1. Virginia N., Age 3. Congenital Talipes Equinovarus. Admitted June 3, 1918.

For a parent to neglect treatment "because the child was born deformed," is to throw man's accountability upon God. This deformity physically and mentally handicaps the individual from earning a livelihood, interferes with social pleasures and marriage, and causes morbid physical conditions.

Relapses are the rule after partial or imperfect restoration and through ignorance or inattention on the part of the surgeon or parent.

Treatment.—Congenital Equinovarus.—1. Manual Straightening Massage. **Treatment should commence from the day of birth,** since in the first three months of life, bones and cartilages are soft and yielding and growth is rapid.

Every club-foot can be cured with good functional motion if the member could be held to the corrected position by a human hand for six months. To approximate such

a condition the foot must be untwisted by the nurse many times a day for a minute or two at a time, but not to the extent of giving the infant pain. Whenever the baby is in the lap or at the breast, the foot can be gently held in a partially corrected position without annoying the child. Pressure should be intermitted as soon as the infant's face shows discomfort. The object of treatment is to induce growth and elongation of all the contracted muscles, ligaments and tissues, to mold the deformed bones and stimulate weakened muscular fibres. In addition to manipulation, persistent oil massage of the weakened muscles should be continued for months. If this treatment together with mechanical methods is thoroughly pursued, a large majority of club-feet can be rendered flexible and made capable of being placed with the sole squarely on the floor by the time the child begins to walk. If such a result has not been accomplished by that time, operative measures are needed. No child should be permitted to bear his weight upon the deformed foot, since every step will further misshape the bones and convert a moderate into a severe deformity. Later weak electrical currents may be added, one pole being placed over a nerve-trunk and the other moved over the weakened muscle to increase nutrition and stimulate contractility.

2. **Mechanical Treatment.**—The second stage of treatment consists in retaining the foot in such position that the facets of the astragalus and other bones may be slowly molded into normal articulation. Until the infant is a few weeks old, the foot may be held in position by a piece of cardboard, or fastened with adhesive strips or tapes to permit removal and manipulation and massage.

The quick setting property of plaster of Paris renders it the most available dressing. Weekly renewals of this dressing, each time with friction, manipulation, cleansing and anointing of the skin, together with fixation in an improved position, will in a few months permit even over correction.

(a) **Progressive Rectification by Plaster Bandages.**—A better material is plaster of Paris, as it is readily molded. The foot and leg, protected by a thin stocking or flannel bandage, are enveloped in narrow plaster of Paris bandages. At the first application the deformity is only very slightly corrected—in fat, heelless feet the plaster cast should be applied over the bent knee or it will be kicked off.



When the varus has been untwisted, more attention is given to equinus, which is corrected in the same progressive manner, several months being required for rectification. After rectification the patient is encouraged to walk upon the cast.

(b) **Progressive Correction by Apparatus and Splints.**—A simple dressing for equino-varus can be made by carrying a long strip stiff thin leather, or tin, or celluloid, or felt of zinc oxide plaster from the top of the first metatarsal to beneath the sole, then upward along the outer side of the foot and leg across the top of the bent knee. This can be fastened by adhesive strips and bandage. The effort of the infant to straighten the knee will result in frequent correction of deformity.

After the manipulation already described and the correction by plaster of Paris splints an effective steel brace for continuing cor-

rection of both equinus and varus may be necessary.

A walking shoe may be employed to correct the equinus after the varus has been untwisted by manipulation or by operation.

If the Chinese can greatly alter their feet by bandages during infancy, we can surely mold deformed feet into well functioning feet by corrective measures applied during the first months of life.

dove or game bird at upon or over or nea

(3) **Operative Measures.**—If the deformity has not been so improved by manipulation and mechanical measures that the sole can be easily and squarely placed upon the ground by the time the infant begins to walk, operative measures become neecssary, since every step in the malposition will deform the bones. Operation to place the foot at once in normal position will secure the advantage of making the child itself a corrective agent in molding the bones at each step. Earlier operation is indicated in extremely rigid feet when manipulation and mechanical treatment have failed, or when the heel is so small that no appliance can be retained, or where control of the child cannot be secured. Many an infant, sent away with specific instructions as to treatment and to return in one year or a shorter time, by the advice of physicians or friends has been told to "wait until it was old enough." Such advice has resulted in the delay of two, five or ten years during which time the possibility of a flexible straight foot has been sacrificed.

1. **Subsutaneous Tenotomy of Tendo-Achillis for Equinus.**—The substitution of the simple, rapid and effectual operation of aseptic tenotemy for the painful, long continued and inefficient mechanical treatment is the method to be employed as soon as the walking age is reached.

Simple subcutaneous tenotomy of the tendo-Achillis is sufficient in equinus and also in equinovarus if the varus has been cured by previous treatment. In the majority of cases, however, it is better to divide the tendons of the tibialis anticus and the tibialis posticus to prevent relapse.

2. **Multiple Tenotomies With Extreme Forcible Manual Overcorrection Followed by Fixation, Retention and Manipulation.**—This method I use in a large majority of cases, especially in older children who have been neglected or permitted to walk upon the deformed bones, or in cases that have relapsed. An X-ray will assist in locating the most serious bony deformities. Positive and complete correction at the time of operation is essential or relapse will result. Every resisting tissue, tendon, fascia and ligament is divided or stretched until a flexible foot is secured. The inversion of the leg at the knee and hip should be forcibly rotated and everted, and in pronounced cases the casts can be fixed in this position. Permanent inversion or intoeing is often due to weakness of the outward rotators at the hip, which must be corrected by voluntary gymnastic exercises.

The worst cases of relapsed club-feet are those in which the surgeon considers the deformity cured by the operation and neglects later retention and muscular development.

3. **Tarsectomy.**—In neglected and relapsed adolescent cases and practically always in adults, the bones are so deformed that some portion of the tarsus must be removed. It is a most valuable operation when time, age, expense, lack of care and rebellious feet make relapse certain after lesser operations.

Astragalectomy.—This bone, acting as a keystone, offers the greatest obstacle to correction, articulating as it does largely both with the leg and the tarsal bones.

Very good ankle motion is secured in aseptic cases, as the upper surface of the calcaneum readily adapts itself to the articulating surfaces of the tibia and fibula at the ankle. Sometimes resection of the cuboid or a portion of the oscalcis or the tip of the fibula becomes necessary in old cases.

Summary: 1. Talipes Equinovarus is more likely caused by Intra Uterine Traumatism than by maternal impressions which are vague and exaggerated.

2. With proper treatment commencing at birth, ordinary infantile cases should be practically cured in the first year with full functional results.

3. Relapses are the rule after partial restoration and through ignorance or inatten-

tion on the part of the surgeon or parent.

4. Treatment should begin from the day of birth.

5. If the deformity has not been so improved by manipulation and mechanical measures that the sole can be easily and squarely placed upon the ground by the time the infant begins to walk, operative measures become necessary.

THE PART AND PROFIT OF THE FAMILY PHYSICIAN IN THE PUBLIC HEALTH.

By M. F. Haygood, Director, Division of Rural Sanitation and Epidemiology. Georgia State Board of Health.

If the success of an indivual is to be measured by his income or, in other words, his earning capacity; the medical profession of these United States is in serious need of a thorough economic survey and adjustment. Even though a number of our colleagues have, by hard work and scientific investigation, achieved great things in surgery, anesthesia, therapeutics, chemistry, and preventive medicine, we as a whole are unstable by reason of our financial disability. Before the world war the average American physician's practice added to his financial resources about $670 annually. If we grant that this has been doubled, or even quadrupled since 1914 it does not require the services of an expert accountant to reveal the fact that the physicians are about the most poorly paid class of people living in our midst today. The net income of the average unskilled laborer being equal to or exceeding that of the doctor.

What the intelligent laymen is demanding of the physician today is service. This service cannot be expected of the underpaid physician who cannot afford the necessary armamentarium and knowledge without which, a No. 1 service is impossible.

If it is necessary for the banker to be a good business man in order to succeed, it is likewise necessary to the success of the physician that he handle with care his economic assets. The banker who fails to handle, in a profitable manner, the resources of his institution is not only predestined to failure himself, but his institution can survive for only a short period of time; and the medical man who is careless or negligent as regards his economic resources will place in great jeopardy his possibilities as a professional man.

It is to be feared that our profession has kept about it's existence a cloak of false charity. We may have, in a measure, been responsible for the popular impression that has penetrated even the remote parts of our coupntry, that we practice medicine because of our great love for humanity. Nowhere in our great code of morals and religion, the Bible, do we find that the balance of the race should calim the services of anyone without a reasonable compensation. The family doctor is no exception.

To be sure, the laborer is worthy of his hire, and if the physician conscientiously practices his profession in accordance with the most recent knowledge of this great science he is a benefactor of humanity. It is equally true, however, that the banker, the merchant or the farmer who honestly performs his duties is by no means a malefactor.

Any individual i sentitled to a good living and a good name from his avocation, but the physician who fails to consider the business side of his profession will receive neither.

There are reasons why our physicians are underpaid. Beyond a nyrabnseocla underpaid. Beyond any reasonable doubt the volumn of work is ample, even though many are the instances where the family needs the services of the physician, but he is not called, either, because of the inability to pay or because of failure to recognize the possible seriousness of the situation. It is certain that much of our clientele call us late in the development of the cases, necessitating more calls to the individual, less earning efficiency on the part of the patient, and often other members of the family are rendered less able to call the physician early enough to prevent another serious outcome or a possible fatality.

Nothing in this paper can be construed as indicating that the profession should place an inflexible price upon its wares, for any physician who cares more for the dollars he can get from his patients than he does

for their welfare and life should be denied the privilege of further perverting the normal functions of his calling. This applies to the merchant, the banker, and all other business men as well.

Even with the above facts before us we have not shown how it is possible for the physicians to realize a better income than the practice of his profession; however, the best source of information is possibly the physician's ledger. There the story of poor collections is told in no uncertain words, and if we should investigate the cause of poor collections we would find, in the vast majority of cases, that it was due to one of two possibilities; First; the failure of the physician to attempt any systematic methods of collecting. Second; the inability of the patient to pay. The individual can and should have control over the first cause. The second should receive co-operative investigation.

It is not unreasonable, after years of observation and experience, to believe that the vast majority of the people are honest, and that the doctor will receive payment for "services rendered" if the patient's assets or credits will permit. In order not lo los or credit will permit. In order not to lose the home, the mortgage is often paid off at the bank before the physician is paid. This is no sign of dishonesty but is an effort to save the home. If the assets are sufficient there will be no right of priority. To help increase the assets of each one in the community should be the aim of every good citizen. No community is stronger than the physical fitness of it's citizens, and here the ledger of the physicians, when studied carefully will reveal the fact that the cause of the vast majority of our unpaid bills is due to preventive cause.

The income of the family has been cut down by physical inefficiency. This disability may have accrued during the year, or it might have been during the past three or four years.

Where is the physician who has made money from treating typhoid fever, tuberculosis, dysentery, or malaria? These conditions render one unable to earn a livelihood, and therefore, will cause such a financial loss that cannot be overcome in months and often in years. From such conditions no one gains, but all sustain losses.

These conditions are preventable and with the aid of the physicians throughout the state, public health workers can, within a few years put into operation such measures as would eliminate the presence of such diseases.

Conclusion.

1. The physicians of Georgia are losing large sums of money each year by reason of unpaid doctor bills.

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2. A survey of the ledgers of the hhysicians would show poverty stricken homes, by reason of preventable disease, as being largely responsible for these unpaid bills, which bills constitute about 40 per cent of the total practice of the profession.

3. Would not not be wise for the physicians of Georgia to launch a campaign for a careful survey of these conditions in order to know just where our assets are and the cause of our liabilities?

THE EARLY RECOGNITION AND TREATMENT OF THE NEUROSES AND PSYCHONEUROSES.

By Newdigate M. Owensby, M. D., Atlanta, Georgia.

Formerly Neuropsychiatrist, Medical Officer's Training Camp, Ft. Oglethorpe, Ga.

The importance of an early recognition and the proper treatment of the neuroses and psychoneuroses has been greatly neglected in the past and the resultant harm done the patient as well as the medical profession cannot be over-estimated.

This neglect has been due to many reasons, chief of which have been the multiplicity and queerness of the symptoms manifested, as well as their dependence upon the imagination, the strain on the time and patience of the busy practitioner, and his over conservativeness in treating disease where there are no organic lesions apparent.

Since the introduction of hypochondria and melancholia into medical phraseology, medical men have been making attempts to

find a physical basis for their somatic symptoms as well as their physic manifestations, and lacking in that the majority have failed to look for a psychologic explanation of the psychopathological facts presented or to examine into the pathogenesis of the disturbance of functioning. That such an explanation can be found is evidenced by the number of cases reported from the psychopathological laboratories of institutions devoted to the treatment of this class of patients.

Again an examination into the previous treatment of the majority of the neuroses and psychoneuroses of long duration will reveal a great number of physicians consulted, a few operations, several 'brands' of patent medicines tried, and many osteopathic or chiropractic 'treatments.' All of which testifying to the efforts made to find a somatic cause for a psychic disease, and the ignoring of the underlying mental mechanisms.

Perhaps it would be well for those physicians who persist in looking for a physical cause for these diseases, and whose minds are still 'haunted with the specters of retroversion, of dyspepsia, dilitation of the stomach, and diseased ovaries' to recall the statement made by Axenfelds, that "the entire class of neuroses has been based on a negative conception; it was born on the day when pathological anatomy, having undertaken to explain disease by changes in the organs found itself brought face to face with certain number of morbid states for which no reason could be found." Adolf Meyer emphasized this when he wrote of the "medically useless contrast of the mental and physical" and called attention to the "missing chapter of ordinary physiology and pathology, the chapter dealing with the functions of the total person and not merely detachable parts."

The neurologists have recognized the neuroses and the psychoneuroses as being of a psychopathological nature for many years but a better understanding of the etiologic mechanism has been gained since Freud formulated his theories regarding the part played by sex and repressed subconscious desires. Earnest Jones gives a very concise idea of the modern conception when he states that the "neuroses are not diseases or accidents that happen to a person, as the French school of psychopathology maintains, but are phenomena produced and brought about by some tendency in the person's mind, and for specific purposes. Frued distinguishes three classes of motives that operate in this way, one essential, the other two not. The indispensable one is an unconscious desire to obtain pleasure by gratifying in the imagination some repressed and disasso ciated impulse, a motive, therefore, arising in the part of the mind that is not in harmony with the ego-ideal. A second motive is to achieve some end in the outer world; for instance, sympathy from an unkind husband, which the person finds easier to do by means of a neuroses than in other ways. The third set of motives has the same purpose as the last, but may be distinguished from it in that they concern the making use of an already existing neurosis rather than helping to bring one about."

The experiences with the war neuroses and psychoneuroses has, as Rosanoff very aptly puts it, "strengthened our conceptions of the underlying mechanisms more fully than any pre-war conceptions." Very little difference has been noted between the psychoneuroses of war and peace time. The difference is best summed up by Payne as follows: "The psychoneuroses of peace time are usually the result of mental conflicts between repressed instinctive tendencies and the demands of civilized life. The instinct most often involved is sexual. In the psychoneuroses of war time, however, we find that the conflict is usually between the soldiers ego instincts (particularly that of self preservation) and the demands of the military service.

In order to treat the functional nervous diseases properly a physician does not necessarily have to be a psychoanalyst, but he should be a good clinician, a psychologist, and a moralist, and should study all the facts of the disease brought to his attention and render an opinion regardless of his conservativeness of tradition. He should observe the constitutional makeup of the patient and carefully note whether he is lazy, stubborn, jealous, sensitive, introspec-

tive, self analylitical, full of self pity, craves sympathy susceptible to suggestion, etc. It is necessary that he inquire into the environmental conditions of the patient, also his home life, finances, sex conflicts, whether or not there are phobias, obsessions, or intrapsychical conflicts present, and into all other things that might throw light upon the psychogenesis of the neurosis. A thorough examination of all organs must be made and any condition be corrected that might suggest to the patient's mind a graver condition than the existing one.

The neuroses and psychoneuroses are most important factors in the cause of chronic invalidism and the physician should bear in mind that his neglect of this class of patients will mean a definite economic loss to the family of the individual as well as to the community.

A few brief records of cases where the early recognition and treatment were neglected will be given in a subsequent article.

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IS ALCOHOL A STIMULANT?

Until comparatively recently, alcohol was regarded as a respiratory and cardiac stimulant. Whiskey was probably the most popular domestic remedy for such occasional upsets as fainting, in which stimulation was presumably required. The popular idea that alcohol is a tone stimulant has so often proved to be untenable on the basis of scientific evidence that it seems almost superfluous to refute the mistaken notion anew. No one will deny that a feeling of relief often follows the use of alcohol in conditions in which stimulation seems to be indicated. In such cases, however, it has been shown to act merely as an irritant to the mucous membranes of the mouth and throat, promoting thus a beneficent local re-action before the alcohol has had time to be absorbed and stimulate in any way the depressed function.

There would be little occasion to refer again to the subject at this time had not a layman of prominence, Mr. G. E. Flint, recently, in a fiery volume,[2] vigorously defended alcohol as a stimulant. Any tyro in physiology can find contradictions in Flint's book which, as a recent reviewer[3] remarked in The Journal, "sometimes quotes confidently as fact what is absolutely not true." Consider, for example, this statement (page 155):

> That alcohol is very easily digested is proved by the fact that the carbohydrates cannot be digested as such, but only after they have been changed into sugar and finally into alcohol.

To the author of such statements, seemingly endorsed by a medical expert, alcohol is distinctly a "heart stimulant." And then there is further instruction: "That alcohol is not a stimulant has never been proved."

In animal experimentation the use of anesthetics, which are commonly employed to insure painless effects in such studies, may interfere with the interpretation of the observations in which alcohol, itself a narcotic, is concerned. Lately, satisfactory methods of investigation without the use of the anesthetic when alcohol is being tested have been devised. Hyatt,[4] who has given the most recent report, found that when alcohol is given by mouth there is a rapid rise in blood pressure followed by an immediate return to normal. This is a purely local effect due to irritation of the gustatory nerves and swallowing movements. The same result can be obtained with dilute acids. When the alcohol was introduced directly into the circulation without preliminary contact with mucous membranes, there was either no effect or a fall in pressure. An anesthetic dose may actually be given by introduction in this manner into the circulation, to which it must find its way in any mode of administration, without any stimulation of the heart or respiration. Even when moderate doses of 40 per cent. alcohol are introduced into the stomach slowly by the use of a gastric sound, no change in pressure is produced.

These experiments confirm the earlier studies of the same sort which Brooks[5] has described in The Journal. Why need the subject receive further argument? In refuting the claim that alcohol is in any sense a direct stimulant of the heart, a distinguished British committee reporting to the Central Control Board thus formulated[6] the status of the controversy:

> The fact that the beneficial effect appears almost immediately and long before any significant amount of alcohol can have been absorbed and carried to the heart, is evidence for this local and indirect nature of the action. Its use in these circumstances is, therefore, comparable with that of smelling salts, or the irritating fumes of burnt feathers, traditionally employed for the same purpose. When, in conditions of more protracted weakness of the heart, the administration of alcohol has a beneficial effect, this must be attributed mainly to its mildly narcotic and sedative action, relieving the centers which modify the action of the heart from the disturbing influence of pain and anxiety. The promotion of a patient's comfort, the relief of mental strain, may be an essential element in the treatment of disease, and an important factor in recovery. It does not, however, justify the description of alcohol as a "stimulant" of the heart.

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Editorials

THE DIFFERENTIAL DIAGNOSIS OF CERTAIN BONE LESION. BY MEANS OF THE X-RAY.

It is not only possible to diagnose the presence of a bone lesion by means of the X-ray but by applying certain points we are generally able to determine definitely the character of the lesion present.

The information that is of most importance to the surgeon or internist is whether a given bone lesion is malignant or benign. However, it is well to endeavor to establish the nature and kind of the lesion present when possible to do so.

In order to obtain such information concerning certain of the most important bone lesions that we are called upon to diagnose by means of the X-ray, the following plan of study is suggested: First, we should determine the point of origin of the lesion present; second:, it is essential to know whether there has been bone production or bone destruction; third, the presence and character of the invasion if it be of an invasive nature; fourth, the condition of the bone cortex.

Applying the first point in the plan suggested, we determine whether the lesion present originated in the cortical or the medullary portion of the bone and the relation that the point of origin bears to the bone extremities, nutrient foraminae, etc. In determining the second differential point we establish the lesion present as being either a bone producer or a bone destroyer which helps materially in the differential diagnosis of the lesion present. By establishing the third point we obtain much information to classify the lesion as being of the benign or malignant group, as all of the malignant bone lesions are invasive in character while few of the benign lesions possess such char-

acteristics. The study of the fourth point—the condition of the cortex—gives information as to its presence or absence, thickening or thinning and whether or not it be expanded.

1st Osteoma.—Osteomata usually originate from the cortex and when involving the long bones are nearly always found near their extremities. They are benign tumors and come in the class of bone producers. They are not invasive in character. They may be single or multiple at the seat of origin, but they always show sharply defined outlines and are quite symmetrical in architecture.

Osteosarcoma.—Osteosarcomata must be differentiated from osteomyelitis and syphilis. All of these lesions are invasive in character; the point of origin will not differentiate them but a study of the cortex and of the bone production will usually deermine the diagnosis. Osteosarcoma being one of the malignant bone lesions, invades the medullary and cortical portions of bones equally and is a great producer of bone salts, deposit—this material in the surrounding soft parts. Osteomyelitis originates in the medullary portion of bones, usually up and down the medullary canal producing patches of bone necrosis and sequestra but with very limited and irregular involvment of the cortex. Syphilis can usually be differentiated from Osteosarcoma by the presence of periosteal thickening and bone production involving the cortex. A Wassermann test of the patient's blood should always be made to verify the X-ray findings when in doubt concerning this lesion.

Osteomyelitis.—Broadly speaking osteomyelitis may be said to originate through a hematogenous or a lymphogenous route or as a result of direct inoculation following infected wounds and abrasions. In the acute form of osteomyelitis, especially very early in the disease, it is often difficult to make a diagnosis by means of the X-ray on account of the lack of sufficient bone destruction to show areas of lessened density on the photographic plate. Usually, however, one can find in the acute cases evidence of invasion producing thickening of the periosteum and small vacuolated areas of lessened density in the medullary portion. These findings together with the clinical aspect of the case, a leukocyte and differential count of the patient, a blood should almost invariably enable one to make a diagnosis in the acute stage of this disease when operation means so much to these patients. Chronic osteomyelitis represents that stage of the infection in which there is bone reproduction. The bone reproduction always starts where the infection stops and the healthy bone begins, often giving quite a varied picture. The cortex is never expanded but bone deposition along the course of the periosteum often gives a plate suggestive of such a condition. Osteomyelitis must be differentiated from bone cysts, osteochondromata, osteosarcomata and syphilis. Bone cysts and osteochondromata can usually be differentiated from osteomyelitis by their shady lines of demarcation and their tendency to cause a thinning or complete destruction of the bone cortex.

Osteosarcomata being one of the malignant forms of bone lesions, invades the cortex and the medullary portions to an equal degree and does not travel up and down the shaft of the bone resulting in areas of destruction of cortex or medullary canal as seen in osteomyelitis. The bone production, which is quite marked in this condition has the appearance of being deposited in the surrounding soft parts, a feature very characteristic of this lesion.

Syphilis is frequently a cause of osteomyelitis and is usually very easy from a clinical standpoint to differentiate from the other forms of osteomyelitis The thickened cortex, periosteal proliferation, the presence of lesions in several bones at the same time and the limited subjective symptoms are usually sufficient for the roentgenologist to make a tentative diagnosis pending the outcome of a Wassermann test of the patient's blood.

Periosteal sarcoma.—Periosteal sarcoma as its name implies is one of the malignant bone tumors and involves the periosteum and the bone cortex. This lesion must be differentiated from syphilis and the various forms of osteitis, especially osteitis deformans or Paget's Disease.

As all of these conditions affect the bone cortex and as all of them are bone producers,

the diagnosis must depend largely upon the manner the bone deposition occurs and appears upon the X-ray plate. The bone deposition in periosteal sarcoma is usually quite characteristic, being deposited perpendicular to the shaft of the bone and apparently projecting out into the surrounding soft parts. The cortex is only slightly involved and there is never any thickening of this part of the bone. In syphilis there is usually a great deal of thickening of the cortex but the bone deposition, which is quite marked as a rule, does not form at right angles to the shaft of the bone as is the case in periosteal sarcoma. Osteitis deformans which occurs most frequently in the bones of the leg and head, causes deformity in the form of bowing in the long bones and broadening and thickening in the bones of the head. When there is a suggestion of Poget's disease involving the long bones the head should also be X-rayed to see if there is involvment of the cranial bones, and if in doubt a Wassermann test of the patient's blood should be made to aid in the differentiation.

EARLY DIAGNOSIS OF CARCINOMA OF THE UTERUS AND ITS TREATMENT WITH RADIUM.

By W. C. Gewin, M. D., Birmingham, Ala.

1. When we consider the fact that our best authorities say that from fifty to seventy-five per cent of all carcinoma of the uterus are inoperable when brought to the attention of the surgeon, and this is made after so much has been written on the question, no apology is offered for a discussion of this subject at this time. The importance of this disease is so very obvious from the fact that it destroys more women than does tuberculosis, and also that it has baffled all our efforts to combat the malady. Hence, one is always ready to accept for investigation anything that is to overcome the terrible suffering that carcinoma of the uterus causes, and this is my special reason for calling the profession's attention to the use of radium as well as the usual surgical procedures at our command in this class of cases.

2. The early diagnosis is the sine-qua-non in every case of carcinoma of the uterus. The general practitioner must learn that an ulceration of the cervix which fails to heal under proper treatment should always excite suspicion and call for a thorough examination. In all probability one will have malignancy to deal with, even in incipient carcinoma. It has been said that 80 per cent of this delay in diagnosis is due to the patient, and 20 per cent to the inattention of the doctor. Hence, the large percentage of inoperable cases that present themselves to the physician for relief from carcinoma of the uterus. Frequently the patient refuses to adhere to the advice of the physician, not knowing the very great importance of having the matter attended to, and they satisfy themselves with the belief that the trouble is due to the menapause, or simply to an irregularity of menstruation. Early cancer of the uterus produces no pain, which is unfortunate, for the reason that if every woman with bleeding cancer suffered pain as they do later on, she would seek help without delay, and with the added prospects of cure and not Paliation. The one great danger is delay, and it is the duty of every doctor to educate the women of this country in regard to early symptoms of cancer. When the classical symptoms of cancer, hemorrhage, pain and offensive discharges appear, the patient is doomed in the majority of cases, and it is only in a small number of cases that we have been able to get even palliation of the disease. Heretofore when in carcinoma alone it is too late to hope for a cure of the neoplasm. The concensus of opinion, at this time, is, that there is a precancerous stage in the existing condition, the cases can be diagnosed by physical signs that will undergo malignant degeneration, and the foremost condition leading to malignancy is laceration of the cervix. All women who have borne children should be carefully examined, and if a laceration is found it should be carefully repaired. If the laceration shows extensive ulceration it is a much safer plan to amputate the cervix immediately than to do the ordinary trachelorrhaphy. And always some of the tissues should be examined by a competent pathologist, and if this shows any malignancy a complete

operation should be done and the patient then should be radiated.

3. The question is, are we justified in telling our patient that they are too young to suspect a cancer. We forget that cancer of the uterus can and does occur before the age of twenty and after the age of seventy. However, the greatest number of cases of cancer of the cervix occur in the fifth decade of life. Age can never be relied upon where we are determining the possibility of a cancerous condition. The great difficulty in getting these cases early is the well recognized fact that there are no objective symptoms in the early stage and these patients rarely come for an examination for what they consider a disturbed condition of menopause. When you find that the cervix is hardened, or indurated, can you say positively that it is or is not a precancerous condition? Therefore if accompanied with bleeding it is very apt to be an approaching malignant condition of the uterus. Slight hemorrhage upon straining the bowel movement is very suggestive of malignancy and should be sufficient warning for the physician to make a complete examination of these women.

4. It has been preached for years that we must get these cases to early operation. This can be done only by informing every woman that any show of blood is a warning sign not to be neglected, if there are any discharges in excess of normal, which changes at different times, this must not be neglected. Unfortunately there is no pain in the cancer of the womb. I consider this condition unfortunate for the reason that if every woman with a beginning cancer suffered the pain that accompanies the disease in its later stages she would seek help without delay and with greater prospect of being cured. The one great mistake in treating career is delay. I insist that it is the duty of every physician to be very careful to examine all cases that may come under his observation, and especially those cases that are in the fifth decade of life.

5. Surgery has been of great benefit in the battle with cancer, and the complete removal of the pathological growth has been justified. But those of us who see a great number of these cases of cancer in our every day work are made to realize that in the last analysis surgery is of but little avail in some of these cases, unless followed up with other treatment. We have seen numbers of cases that have had a recurrence after operation on account of the malignancy and, in a great many instances, with the admonition to go home and take sufficient morphine to keep them easy until death kindly relieves their great suffering. I want to say we are not marking the time, but are making progress in the treatment of cancer, and we are employing agencies as an aid to our surgery and in many instances taking the place of surgery in inoperable cases. The profession has been so thoroughly imbued with the idea that hysterectomy was the only thing to do for cancer of the uterus that all other means have been roundly condemned, and all suggestions for a medical or dietary treatment have been cast aside without trial. The surgery of cancer is simply the removal of a pathological entity that can not develop in healthy tissue. Then why not resort to those measures that tend to keep every cell in a normal condition? Dr. Kennedy, after studying 281 cases of cancer, distributed to every region of the body and in every stage of development in those who were cast aside as hopeless, and after careful studying the histories of these cases found almost invariably that the cancer patient had been a victim of colonic stasis in varying degrees, and came to the conclusion that metabolism is a casual factor in cancer.

6. The physician in the past has studied the pathological lesion, and the statement has gone forth that cancer is purely a local condition and is a manifestation of a general condition. From this dictum has arisen the practice of trying to remove the pathological mass and never giving any thought to the physical condition of the patient. It is well known that cancer produces secretions which effects the whole system, and this he termed cachexia. Recurrences after operation are frequent, hence the belief that surgery does not cure but few cases of cancer, the relative per cent being about 15%.

7. We must study the metabolism more

deeply and find out why certain cells take on riotous growth after lying dormant so many years as they frequently do. We must study the patient and not be content to remove the cancer. When the blood stream, nourishing the tissues, is correct, the individual cells of the body perform their functions normally, and as each cell is worn out it is removed by catabolism and renewed by a healthy, normal anabolism, and hemalagous cells then replace those which have been unable to perform their function. Should there be perverted metabolism we have various forms of pathological degenerations to which we give the name of various diseases. One of these is cancer. Here, in place of homologous cells, maintaining the tissues in a normal condition, we have a malignant metamorphoses into heterologous cells which take on a disorderly action, and refuse to assimilate themselves to others, so as to form healthy tissues. We have then a mass of low vitality, tending to break down easily or ulcerate and extend their malignant action to adjoining tissues under the continuing influence of a contaminated blood current. It has been found in the past by those who may be considered authority on the subject, and whose patients have been placed on strictly vegetable diet, the patients have done much better than those who have been allowed to eat animal food. The necessity for keeping the body up to the highest point of resistance in these cases has inspired many of us physicians to diet these patients so as to make them as healthy as possible. This is positively demonstrated in scurvy, pellagra, and other like diseases. Then, why not in cancer? Just as long as the profession will permit the surgeon to cut out the pathological entity, which can not grow in uncontaminated surroundings and take no consideration of the patients as a factor in this equation, just so long will the majority of the victims of cancer go down.

8. Increased per cent of cure of cases of cancer of the uterus is being obtained by operation of the Wertheim type. Statistics concerning hysterectomy for cancer of the uterus are of slight value for the reason that there is no definite way of describing operable or inoperable cases of cancer. Some men will take desperate cases, thinking that perhaps he may do some good, while another with more thought of his operative statistics, will operate none but the most favorable cases. The greatest advance that has ever been made in the surgery of cancer of the uterus is due to the work of Dr. Percy, who has improved the work of Dr. Byrne, especially as to technic until it can be said that he has done more than any other surgeon for the relief of cancer of the uterus. His method is far superior to a hysterectomy in advanced cases. However, in unskilled hands there is danger of injuring the adjacent organs, and the same condition that exists in other radical operations. But the sequals is cases of hysterectomy are much more troublesome than the same post operative consequences that are encountered when the Percy operation is done, however, radical the Perey operation may seem. Quite a large number of these cases are not in a physical condition to stand such an operation, and their condition renders them inoperable, so far as the lesion is concerned, and it is inadvisable as only about twenty-five per cent are fit subjects for systerectomy. But one hundred per cent of cases of cancer are amenable to the Radium treatment or Perey operation.

9. The most valuable armamentarium in our fight on cancer is found in radium. Within the last year there is much literature extolling the value of radium by such men as Kelley, Clarke, Newcome, Abbe, Crile, and others, quite numerous. In judging the value of radium it must be remembered that the cases of cancer of the uterus present themselves for treatment after they have been operated, cauterized, X-rayed, and abandoned as hopeless, and a great majority of cases referred for radium have been considered inoperable and in the past have been advised to use morphine and await the inevitable result. In the use of radium, like the Perey treatment or the hysterectomy, it must be remembered that the salt is an agent for harm as well as good, since much harm has been done by using too large an amount for too long a period of time. Such faulty technic has produced severe burns, but since we have learned to properly screen radium,

and to give proper dosage in milligram hours in order to get the most desirable effects from the application of these salts. And in practically all cases, regardless of stage or condition of the patient, the application of radium has given us some result, if nothing more than the relief of pain, and the discharge and eradication of the odor. In our experience there has not been a single case of cancer of the uterus that has not received some degree of comfort from the treatment. Pain is usually relieved, the hemorrhage is checked, the discharge is arrested, and the improvement in general is noted. While radium does not cure all cases, it has its limitations just as surgery, X-ray, and any other agents we employ, although in our hands we have noted certain benefits in practically every case, even though very advanced. Frequently we get relief from pain from the first treatment. The relief to the families and friends is worth more than can be estimated in dollars and cents. I do not wish to make a detailed report of our work with radium in cancer of the uterus, but I assure you that radium is coming to the front every day, and I think a great deal more of it at present than I did six years ago. And the relief that we have been able to give these patients, especially the advanced ones in the way of pain and distress accompanying this disease, is worth more than the time and effort that we have put forth along this line.

10. In conclusion I beg to say that in every case of cancer of the uterus, if it is operable the case should be operated upon, and then followed up with sufficient radium treatment. And if the case is one that is inoperable we can at least expect to relieve pain, check the hemorrhage, and eradicate the odor. But in any of these advanced cases they do well, and a great many can be cured where there is not metastasis already taken place. But of course, where metastasis has taken place, and the blood stream is polutel, we can expect no permanent cure, but we can relieve the pain, and hemorrhage, as stated above. One of the most important points to be recognized is to put the patient on strict vegetable diet. Colonic stasis must be overcome. Then the blood stream must be improved, iron and arsenic, and cacodylate of soda being valuable remedies. Thyroid extract has been of inestimable value.

11. Radium is painless, safe, and an efficient method of treatment, and I believe the time has come for recognition as the proper method of treatment in earlier cases than those in which it has been advised. However, we have been forced to change our methods in many of these cases and at many times, and probably will do so again. But with the light before me, and the experience we have had with radium, whether an operation has been done or otherwise, I never expect to do another hystehectomy for cancer of the uterus in any stage without following the operative proceedure by the application of radium before dismissing the case.

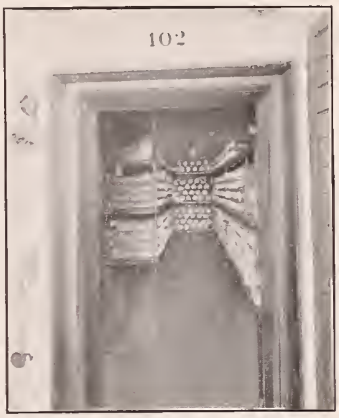
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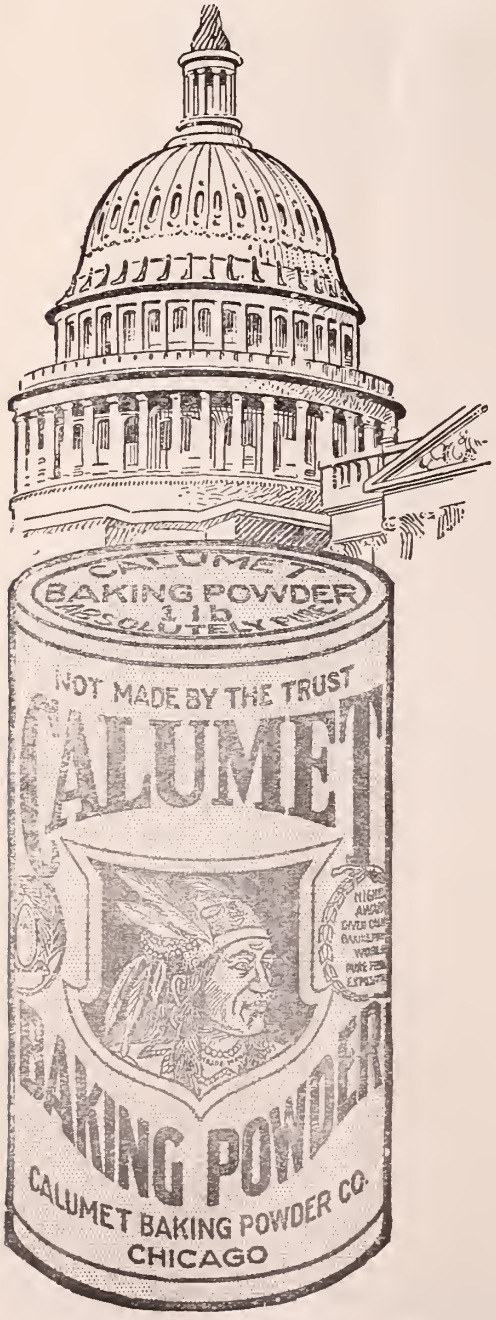
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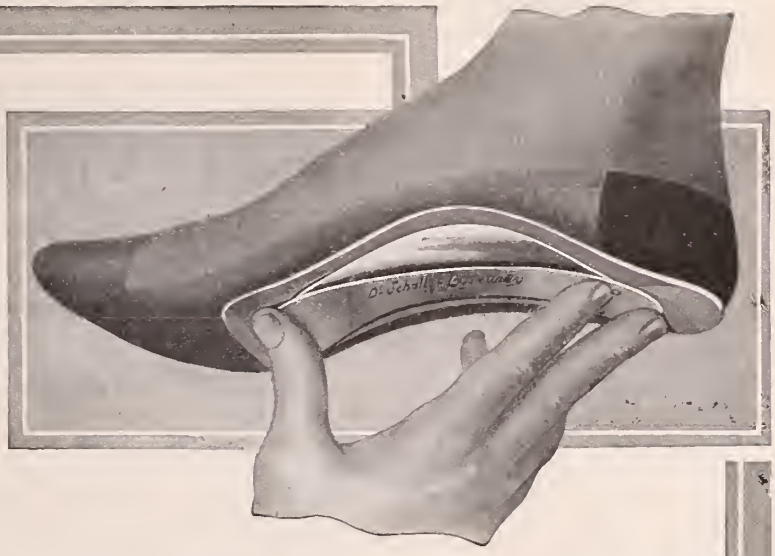
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ORIGINAL ARTICLES

SOME SUGGESTIONS CONCERNING MECHANICAL METHODS FOR SUPPORTING THE ABDOMINAL WALLS AND VISCERA.

George M. Niles, M. D.,

Atlanta.

Before and since the advent of the roentgen ray in diagnosis, it has been realized by many thoughtful observers that much comfort could be given, and in some instances absolute relief, by the employment of proper supportive measures in gastroptosis, enteroptosis, or relaxed and incompetent abdominal walls.

As to the latter condition, many do not realize the malign influence exercised upon the orderly functions of the stomach and intestines by flabby and incompetent abdominal parietes.

There are two classes of individuals in whom this condition is most frequently found: Middle-aged or elderly women, who have borne several children in close succession, and whose domestic duties have so pressed them that they have never permitted the abdominal walls sufficient quiet and rest to bring restored tone; the other class includes elderly men, of previously strong physique and liberal deposition of fat in the abdominal cavity and parietes, who have lapsed into feeble health from any cause. Both of these classes complain of a sense of weight and "dragging-down" while they are in a standing position, and suffer from many indefinite ailments, which may to some extent be traced to the ptosed viscera, and the lack of support given by the abdominal walls.

I have under observation at present two cases, each representing a class. One a woman of forty-eight, the mother of seven children. This woman, whose circumstances in life have been trying, has a relaxed and pendulous abdomen, which, without a support renders her almost helpless. With a well-fitting abdominal supporter she can be up and about, attending to her duties with comparative comfort. The other, a man of sixty-two years, weighing 235 pounds, with a rather weak and degenerated heart, finds that without the supporter for his pendulous and bulky abdomen, he could not be up at all with ease.

The present-day straight-front corset is a marked improvement over the wasp-like corsets formerly worn, and when properly fitted, they exert a really helpful supportive influence upon the abdominal walls and their contained organs.

Another condition to which undue prominence has been given is the "floating kidney." The wave of surgical zeal, during which every palpable kidney was "tacked up" has happily passed, and we now understand that the majority of these loose kidneys can be sufficiently steadied by outside supports to afford the patient relief from most of the symptoms caused thereby.

In nearly every city can be found makers of abdominal belts, who can so fit and adjust them that material support is afforded. In addition to the support, an amount of counter-pressure is exerted, which prevents to some extent the evil effects of gravity in producing a lowered blood pressure when the patient stands. In order that the belt may serve its purpose, the physician should note whether or not it is well fitting and really **supports**. Most of the belts that are kept in stock by the instrument and wholesale drug houses are simply broad elastic belts, surrounding the hips, and pressing backward upon the abdominal walls without any traction upward.

Some well-fitting straight-front corsets are fitted with an inner belt of elastic webbing, which greatly augments their supportive efficiency. In these, however, as in all devices for holding up prolapsed organs and

incompetent walls, the principle of upward and not horizontal pressure must be kept in mind.

Pads of various kinds, shapes, and sizes are used as accessories to these various belts and corsets, many of which are a detriment instead of an aid. Many are devised with the idea of holding in position a floating kidney, and have an extra pad fixed to some part of the belt, or slipped loosely inside of it, depending on the tight constriction of the encircling band to hold it in place.

Most of these are worse than useless, acting in some cases like the ill-fitting truss that not only fails to confine the hernia, but keeps it forced outside the canal. I have never yet seen a kidney really steadied or kept in place by one of these pads, nor have I seen a stomach raised one iota by their employment.

Of some use to men or women with pendulous or incompetent abdominal parietes, and who cannot afford to have properly fitted bandages or corsets adjusted, is a large-sized pad, which fully and adequately covers the whole lower abdomen, and can be worn under a belt or a straight-front corset. Bassler has used with satisfaction in such patients a pad made of thin but sufficiently stiff leather to give it form, and on which the side next to the abdomen is a cushion of curled horsehair covered with kid.

I have modified this by using, instead of the horsehair, cotton batting, and, instead of the kid, several thicknesses of cotton flannel.

The lower edge of this pad fits into and just above the arch made by the anterior superior spines of the ilia, Poupart's ligament, and the umbilicus, and the lateral edges well over the sides of the abdomen. The cushion is thicker at its lower edge than above; it is soft and pliable and readily adjusts itself to the body and outside support. It is quite comfortable to wear, though rather warm for the summer use. It can be fastened securely inside of the belt, or one half of it can be attached to one side of the corset. Usually with ordinary corsets or with a tight-fitting belt it remains well in place.

When the circumstances of a female patient permit intelligent fitting of a corset, the following facts should be borne in mind: It should be long enough to come well down over the pubic bone and outward curve of the hips, should not extend too high on the thorax, should be loose enough above the level of the umbilicus to allow full play to lungs, diaphragm and other organs that move with respiration, and should give the wearer an **actual sense** of comfort, support and restfulness. Any corset that exerts a constriction at or near the epigastric region interferes with the normal change in size and position of the stomach when it is distended with food, and by this baneful pressure causes either a crowding or displacement of other adjacent organs. Pressure at the sides rather low down on the thorax may be allowed with safety, but such narrowing should be allowed for by a corresponding increase in the anterior dimensions of the corset.

Corsets, belts and abdominal supporters, and other devices along these lines have their proper and useful place in persons of generous proportions, or those with full or protruding abdomens. There is another class, however, in which all these devices are utterly without benefit, and in whom the best-fitted corset or abdominal supporter would afford no good service in lifting prolapsed organs.

Take the slender unmarried women, or the slim and medium-built individuals, with abdomens absolutely flat, and hips almost on a line with the smallest part of the waist, or those emaciated individuals, who have perhaps been on a rigorous diet for many months, and who present a depression where a rounded contour should be. These are not fit subjects for abdominal supporters, though many of them suffer from the most pronounced forms of gastroptosis and enteroptosis, and few there are in whom it has been found that properly adjusted bandages of adhesive plaster do not exert a tangible and beneficent effect.

To the late Dr. Achilles Rose, of New York, must we accord credit for the first useful and scientific method of applying adhesive plaster for supportive purposes. Kemp first suggested zinc oxid plaster on mole-skin, and made some modifications in

the method of applying the "Rose belt," which added to its efficiency. After applying many of these belts, I have found that several small reinforcing pieces of the plaster still further enhance their usefulness, and the completed method, as now employed, will be presently described.

As in practically all appliances of worth there are certain disadvantages, this is no exception, and they will be mentioned first. The adhesive plaster, having to remain constantly in place, prevents thorough bathing, which in itself is a deprivation to many people. In hot weather, and with some in any weather, there comes on the surface of the skin covered by the bandage an almost intolerable itching, which, in nervous individuals, is a serious matter. Some skins are so sensitive that the adhesion and tension of the bandage brings about quite a severe dermatitis, and occasionally there occurs a localized infection in the hair follicles, which may produce a number of small but painful furuncles. Lastly, I have encountered a few neurotic invalids, or "pseudo-invalids," who, claiming that the ever present constriction made them excessively nervous, complained continually until it was removed.

The advantages of this appliance lie in the fact that it can be accurately adjusted to the most slender person, that it holds its position constantly, and that steady upward traction can be maintained with a minimum of discomfort.

It should be applied as follows: Zinc oxid adhesive plaster on moleskin 6 or 7 inches wide, the latter being for taller patients, should be employed. A measurement may be taken of the waist, and the plaster cut 1 or 2 inches longer than this measurement. The plaster is laid in its central part over the lower abdomen, and two curved lines are drawn, these lines clearing in a curved line the crests of the ilia. This point should not be overlooked, lest the plaster impinge on these bony prominences, causing considerable irritation thereby. The lateral pieces are narrowed slightly, and are used to reinforce the main piece of the plaster.

The patient's abdomen is cleaned, first with water and soap, then with alcohol or chloroform, as otherwise the oleaginous secretions present on the surface would lessen the adhesive power of the covering. The upper part of the pubes is shaved (it is not necessary to shave the whole of the pubes), and, if there is any hair on the abdomen, that should be shaved also.

In application of the bandage, I endeavor to have the hips so elevated that the body and limbs assume almost, if not quite, an angle of 45 degrees. This is accomplished by placing under the buttocks an ordinary procelain washbasin or other vessel, upside down, with a thin towel between the naked skin and the cold surface of the basin. The patient is instructed to relax the abdominal muscles, and the operator may with gentle downward manipulation, aided by gravitation, press the formerly prolapsed organs out of the lower abdomen into the upper. The bandage is then applied, and by gentle but firm stroking is closely adapted to the surface of the skin all around the body, care being taken to avoid wrinkles. The reinforcing pieces are then put on, letting them begin down near the center of the most dependent part of the abdomen, and extending around the waist line in an upward direction. As these sharp ends do not generally quite meet in the back, it is well to let a short piece of the plaster extend well over each end, thus binding them together, and greatly adding to the efficiency of the whole bandage. Also in front, where the several parts of the bandage superimpose each other, the addition of a few small pieces will prevent later slipping, keeping the whole bandage intact for a much longer period.

To avoid irritation of the umbilicus, some advise that a notch be cut out where the bandage covers that part of the anatomy. This I have seldom found necessary.

The bandage should remain on as long as it is tight and efficient, and by the occasional use of small reinforcing pieces, where it is inclined to give way or become loosened, it will serve its purpose much longer. Three or four weeks is the average life of a Rose belt, though Kemp claims that many of his last six weeks.

To remove the bandage, it may be softened by applying a 10 per cent. ointment of

wintergreen at night, and the following morning it will come off easily. The removal may also be facilitated by applying at the time either oil of wintergreen, ether, or gasoline.

After the belt has been removed, if there is irritation, the skin should be thoroughly bathed with soap and warm water, then gently rubbed with alcohol, and well dusted with talcum powder. The application of the alcohol and talcum may be repeated several times daily with benefit, if it is desired to reapply the plaster speedily. When it is intended to put on another Rose belt, an interval of twenty-four or thirty-six hours, seldom more, is sufficient.

Numerous modifications of the various methods of strapping have been suggested. Some have applied the plaster to the abdomen, and fastened it behind by tapes running through eyelet holes, so as to loosen the constriction at night. Most of these modifications have not proved helpful, and the ones described may be considered as the most practical and dependable.

The sense of strength, comfort, and general well-being bestowed by a well-adjusted Rose belt is sometimes remarkable. It has been demonstrated in many instances by the X-ray that the stomach can be raised and held up from 2 to 4 inches above its former level, while the intestines are also raised and the prolapsed and floating kidney or kidneys materially steadied. Patients whose abdominal viscera are thus supported find that they can walk erectly and firmly, and lose to a decided extent that sense of dragging down, weakness and malaise so generally present in conditions of splanchnoptosis. I have seen several who for a long time would not go without this belt, except for the brief period necessary to quiet the irritative dermatitis.

While the belt is on every effort should be exerted towards the deposition of fat in the abdomen, as well as other parts of the body. A liberal and well-balanced dietary, coupled with requisite rest and other helpful influences will often enable these weak and melancholy semi-invalids to put on an amazing amount of adipose tissue, which in itself will steady and support the ptosed and poorly supported viscera, while the general bodily strength will indirectly bestow tone to the flabby and relaxed abdominal parietes.

Often, also, I have observed stubborn constipation, evidently due to ptoses, kinks and torsion of the intestines, give way with surprising quickness after the application of a well-adjusted supportive belt.

This method, apart from the inconvenience previously mentioned, is both scientific and safe, and is commended as worthy of trial in all cases of gastroptosis, enteroptosis or nephroptosis in slender or emaciated patients. It can do no harm, and will more probably, especially, if properly adjusted, bestow a decided amount of comfort and actual benefit.

HEALTH ORGANIZATION.

By M. F. Haygood, Director, Division of Rural Sanitation and Epidemiology.

The time has never been when the demand for public health work was nearly so great as it is today. Practically every civic organization in our State is endeavoring to formulate a program of sanitation. The Red Cross, the Federation of Women's Clubs, the Council of Defense and the Y. M. C. A. are conspicuous among these organizations.

In Georgia, we have the State law known as the Ellis Health Bill, the provisions of which are well known, and need not be mentioned here. This law, while not ideal in every sense, yet it is one of the best health laws enacted by any legislature in America. It provides for a full time commissioner of health, his salary and the maintenance of his office. It also provides for a health department where there is sufficient demand.

Now, if this statute provided only for a commissioner of health, it would probably not be long before the vast majority of our countries would be very seriously handicapped, since the demand for service would in a short while exceed by far the supply. Even to begin with, the health officer has a vast amount of work to do. In any county having a total population of 15,000 and above, the health officer has a tremendous task already; examining each school child,

lecturing to all of the schools, inspecting all public buildings, looking into the source of all public water supplies, handling all cases of infectious and contagious diseases, administering the vaccines, collecting, consolidating and transmitting reports of communicable diseases and tracing down the source of epidemics.

When, however, you add to this the many things which a health officer should do, such as carrying out a definite program of propaganda, the demonstration and installation of sanitary privies, the examination and treatment for hookworm disease, the enforcement of sanitary regulations and the frequent inspection of all cafes, hotels, soda fountains, meat markets, grocery stores, bakeries, candy kitchens, bottling establishments, barber shops, dairies and so on, the task becomes almost too great for a single individual to undertake. Still if our legalized health board does not in a manner satisfy these demands, other organizations not having any legal status, will enter the field. These, unless supervised by the county or municipal boards of health, will fall short of the expectations of the people, because there is no State law to support them in their undertakings. Then what is the remedy? The answer can be nothing but a **department of health**. The health commissioner is the individual who is to direct and supervise the activities of each member of this health organization. He is the nucleus around which can be built a real wide awake health department, which should consist of, in addition to the health officer himself, a steno-clerk-microscopist, a combination community and school nurse, and a sanitary inspector. This organization can be enlarged from time to time as the demands increase, and any outside organization, wishing to do public health work, should do so through this organization.

Duties of each member of health organization, Commissioner: This individual, in order to organize, finance and direct the activities of a health department, must be a strong man. He must be strong not only from the standpoint of knowing his work, and strong from a moral standpoint, but he must be able to get the maximum of service from each member of his department. In order to do this, he must have a definite program or schedule and work to it. He should have frequent conferences with the members of his force. He should lecture to them as he lectures to other audiences and he should be able to inject into them some real "pep." I like this word pep, because to me it means concentrated enthusiasm, and a health worker without enthusiasm is already dead and you might as well notify the undertakers and insurance company.

Steno-clerk-microscopist: is preferably a young lady, who should be able to write letters, keep accurate records, and should pay special attention to filing all reports, copies of correspondence and so on. She should be taught how to examine for hookworm, also to do malarial and other bacteriological microscopic work.

School and community nurse: she should assist in all school examinations and be taught how to find all physical defects and finally the most of the school work should be turned over to her. She should do follow-up work to see if the defects are corrected and if not, make every effort to have this done. She should do child welfare work and look after the tuberculous. She should, and must be a woman of great resourcefulness, tact and patience.

Sanitary inspector: A man of good habits, who will not spit on sidewalks and floors, a man who does not use profanity and who will not snuff his cigar ashes on the floor. He should have a fair education and should himself be exceedingly tactful and fearless. He should be armed with a code of sanitary regulations and inspect frequently all places where food and drink are handled. It is possibly best for him to wear a badge when making such inspections. He should also visit all country or suburban homes, not having sewerage or sanitary closets, and persuade such individuals to install these sanitary conveniences.

For me to write a definite program for each one to follow, is impossible but it is absolutely essential that our health officers in Georgia have help and good help if they are successful in meeting the demands of their fellow citizens. The harvest is indeed

great, the laborers are few and I firmly believe that the people are willing to give us more laborers if we demonstrate the value of our work to them. Surely preventive medicine is saving us money. It is a real asset, while sickness is a liability. Men want to invest money where they get the best dividends and never where the liability is the heaviest.

I believe your community will support a health department for economic reasons, if not for humanitarian reasons. I think, however, that because of the interest they have in both, that it is possible to finance a health department in practically every county in Georgia.

LUNG DIAGNOSIS.

By Dr. Arch Elkin,

Visiting Physician Grady (Municipal) Hospital,

Atlanta, Georgia.

Whether it is because the finer essentials of lung diagnosis necessarily leads the observer into the field of tuberculosis, or whether the profession has become apathetic regarding things other than mere auxiliary methods, I do not know, but one finds the burden of eliciting real interest in this subject harder and harder.

The remarkable opportunity of studying lungs with doctors from all sections of the country in the army, however, furnishes the inspiration for this effort, and while no originality is claimed, I desire to again call your attention to the value of studying lung findings in a simple clinical way and the methods best employed for proper interpretation.

The title of this paper may be misleading. I do not intend to occupy time by enumerating all of the different methods of examination of the lungs or to recite the many diseases with which we come in contact, but will by process of elimination direct your attention to the most common errors, and then mention the simple ways to elicit chronic, vague pathological conditions.

First, we should ever keep in mind one thing which is paramount. We should study chronic lung changes from effect to cause, and not from cause to effect. This one thing precludes the possibility many times, particularly in inexperienced examiners, from making the proper diagnosis, when singly, the examiner may be able to enumerate correctly the different findings. Until one begins to study any chronic change with this train of thought it necessarily follows that the work done is superficial. One must recognize first, of course, the change from the normal, but too often the mistake is made of remembering in a parrot fashion what is supposed to produce such a change without reasoning why such a departure from the normal is present, and tracing from the point of earliest pathology down to the production of the apparent physical sign, the phenomena, which will invariably suggest a reasonable interpretation.

It has often been said that the lungs and heart do not deceive in physical signs as compared to that veil of mystery—the abdomen. That is undoubtedly true, but how many things for example will produce dullness on percussion or increased voice conduction in a sub-acute or chronic chest, which are not tuberculous. True, if these things persist and are unexplained, tuberculosis will in a great majority of instances be manifest in later months, but this is the time to interpret these findings if possible, not waiting until the diagnosis is easy. It means too much to tell a patient he has or has not, tuberculosis, unless we are at least reasonably sure. It is here that our auxiliary methods often lead us into faulty opinions.

In 1915, before the Medical Association of Georgia, I called attention to the overzealous following of the X-Ray in determining early lung changes, and I have had no reason to change my views, although my experience in research was greatly amplified by service in the Army Lung School in New Haven, Conn. I must not be understood as criticizing the X-Ray to the point of utter uselessness, as it undoubtedly has a place in this field, but we must not be governed too strongly by shadows, even though definite in appearance, if our clinical manifestations

are lacking. The fault is plain—an absolute lack of proper study of the change and a subsequent interpretation based on clinical and physical reasoning drives too often the examiner to the X-ray for help he does not really need. The X-ray is habit forming and makes slackers out of clinicians.

A most common error, and one which apparently spreads, is the failure to know the normal lung findings, and assuming one understands the normal resonance of a chest, the habit of not attuning the ear with each examination to these sounds by starting the examination over the resonance instead of diseased areas, makes the vague sign much harder to elicit.

In a given case of early apical tuberculosis for instance, one can much more readily discover the trouble if he begins percussion and auscultation in the axilla and works forward to the apex, than if he examines in the opposite direction. The resonance of the axilla acts as a tuning fork, so to speak, and pathology is more readily recognized when the finger or stethoscope reaches the border lines. One has to but try this method of examination to become convinced of its value.

The position of the patient is also very important. In examining the posterior chest one may be easily confused by muscle dullness, unless he prove to himself that real pathology does not exist. If the patient is instructed to fold the arms, placing the right hand on the left shoulder and the left hand on the right shoulder, bending forward at an angle of about 45 degrees, and the percussion started in the axilla or base near the axilla, a line of dullness (muscle dullness) is found much higher than if the patient is standing in a more erect posture. Since it is best to have the patient bend forward in order to pull the scapulae from the line of examination, this method is to be commended, but when the line of dullness is reached, one should have the posture slightly changed to make the transient muscle dullness descend in proportion to the change of position. This is easily demonstrated on any ordinary chest. If the line of dullness does not change with the procedure, then we may be sure we are not dealing with muscle dullness.

It is important to note, however, how much harder this procedure would be if we began at the apex and percussed downward.

It is always desirable to know to what extent there has been apical retraction, if indeed, this condition exists.

In any chronic inflammation affecting the apices this will necessarily result, diminishing the expansion. However, one should not be satisfied by merely inspecting the chest and watching the rise and fall of the chest wall with each respiratory excursion. By employing any one or all of three simple methods this can be conclusively shown.

1: Diminished expansion can often be palpated when it is absent or doubtful on inspection. By standing directly behind the patient and placing the hands over the apices, so that the fingers extend beyond the clavicle, and having the patient breathe naturally, the affected side will lag, so that the opposite chest is felt to rise against the hand evenly and distinctly first. To corroborate this one may draw a line just below the border of each clavicle, and have the patient seated with the head bent slightly forward, breathe naturally. By standing behind and looking downward over the chest the lagging side will be slow in bringing into view the pencil line. If this be repeated several times until one accustoms one's eyes to looking at the movements of each chest at the same time, the line on the unaffected side will be brought plainly into view each time before the line on the opposite side is seen.

By careful percussing at Koenig's isthmus one will invariably find the isthmus on the affected side to be distinctly narrower. This procedure should always be done with light percussion. Starting at or near the acromial end of the clavicle where distinct dullness is always present and percussing over the apex toward a line of dullness reached over the neck muscles. Here one goes from distinct dullness to dullness over a space of comparative resonance.

In a normal chest this isthmus is found to be about 2 inches in width, and if the apex is retracted to any appreciable degree, this space will be found narrow.

A discussion of the different types of rales found in a chest usually leads one into an arbitrary opinion, and it is useless to call

attention to the fact that persistent rales, crepitant or sub-crepitant, mean activity of some sort in the lungs.

In some clinics, and in the school operated by the army for lung training, it was necessary to definitely locate rales in order to pronounce a case active. It is my opinion that this is a mistake, and if we wait in a routine manner until we find rales present in a chest before a diagnosis of active lesions is made, we will often times overlook the early cases of chronic lung disturbances for which we can do so much good. It is a well known fact that in early lung changes rales are transient.

Probably one of the most important points in lung diagnosis, and one which is almost constantly abused is the fact that too many are prone to eliminate first the most uncommon conditions before eliminating those that occur frequently. If one becomes too technical in his examinations and looks always for the hard things it will become much harder for him to recognize the easy diagnoses when they occur in his practice.

I look for a great era of improvement in lung diagnosis stimulated by the work of civilian doctors who went into the service and found themselves assigned to lung work, which had not hitherto attracted their particular attention.

THE ETIOLOGY AND TREATMENT OF THE MORNING DROP.

Charles Watterston, M. D.

Birmingham, Ala.

One of the most difficult and annoying problems with which the urologist deals is the treatment and ultimate cure of the morning drop. It is the purpose of this paper to enumerate the possible causes of this distressing symptom and to outline treatment based upon the etiologic factor. The possible causes may be classified as follows:

First: Primary infection produced by the following micro-organisms in the order named.

a Gonococcus.
b Staphyloeoccus.
c Micrococcus Catarrhalis.
d Bacillus Pseudodiptheria.
e Colon Bacillus.

Second: Secondary infections producing:
a Inflammation of the urethral follicles.
b Inflammation of the periurethral glands.
c Granulation tissue in the anterior urethra.
d Stricture of the anterior urethra.
e Inflammation of the prostate gland and posterior urethra.
f Inflammation of the seminal vesicles.
g Inflammation of Cowper's glands.
h Inflammation of the anterior urethra due to a long prepuce.
i Inflammation of the anterior urethra due to a small meatus.

Third: New growths subdivided into:
a Papilloma.
b Polypi.
c Cysts.
d Malignant Growths.

Fourth: Mechanical causes consisting of:
a Irritation of the mucous membrane of the anterior urethra.
b Irritation of the prostate gland and seminal vesicles.
c Removal of the inguinal glands especially bilateral removal.

All of the primary infections will be considered together, the treatment being approximately the same as it would be for infection in any other part of the body, namely, drainage, the use of mild antiseptics and an attempt to increase the patients resistance for the offending micro-organism.

Drainage is the most important factor and should be assisted in infections of the urethra, by the drinking of great quantities of water. Patients must be instructed to drink a glass of water every twenty minutes and in addition hexamethylenetetramin grains sixty may be given during each twenty-four hours.

Locally the colloidal silver salts can be used, such as protogol one quarter of one per cent, or any of the other salts in corresponding strength. The tendency to use

Read before the Chattahoochee Valley Medical and Surgical Association, Columbus, Georgia, July 8th, 1919.

strong antiseptics is to be deprecated, for they lower the native resistance of the mucous membrane and in this way predispose to long continued infection.

The body defences are raised by attention to the general health and the use of a vaccine for the invading micro-organism. It is my practice to make cultures from the secretion and to administer a corresponding stock vaccine. Non-specific protean therapy is at times efficacious when the gonococcus is present for the body temperature is raised and attenuation of the gonococcus results, but if specific therapy is available it should be given the preference over the non-specific.

Inflammation of the urethral follicles which in a majority of cases follows acute gonorrhael urethritis should be treated with the aid of the urethrascope or the cysto-urethrascope. In the event that the urethrascope is used silver nitrate two per cent. is applied directly into the follicle with a syringe or over the follicle with a cotton swab. The former procedure is very difficult. With the cysto-urethrascope a wire is introduced directly into the follicle and the current allowed to act for a few seconds. This method has in my hands given the best results, it is simple, painless and efficient. In the anterior urethra the follicles are found mostly on the floor and at times they can be felt as hard nodules interposed between the fingers and a sound introduced into the urethra.

The periurethral glands are situated within the urethra at a point corresponding to the depression externally on either side of the frenum. Frequently in the course of a gonococcus infection these glands become involved and appear externally as small abscesses. It is advisable to open them internally for otherwise a small sinus will result. Chronic inflammation of these glands will frequently cause a slight discharge manifesting itself as a morning drop. The treatment is the same as that described for folliculitis.

Granulations merely represent a solution in the continuity of the mucous membrane and appear posterior to stricture or in the posterior third of the cavernous urethra. This is accounted for by the fact that the pressure of the urine is greatest at these points, just as the stream of blood is said to produce aneurism of the ascending aorta because of its being impelled against this structure at a certain fixed point.

Personally I think in a great many instances the damage is started by irrigations with some insoluble particles contained therein or by faulty instrumentation of the urethra.

The treatment consists of the application locally of silver nitrate at intervals of several days until recovery takes place.

Stricture of the anterior urethra can in a vast majority of instances be completely relieved by gradual dilatation, even though the urethra will admit only a filiform when systematic dilatation is begun. The classical signs of stricture—diminished force of the stream, dribbling after the act of urination and slight urethral discharge—are not in every instance definitive of this condition for it is sometimes impossible to demonstrate the presence of a stricture when all are present. The discharge is due to a thickened mucous membrane at the site of stricture, or to granulation tissue posteriorly. Gradual dilatation is the treatment of choice and should be followed by local applications to the granulating area as described in the previous chapter.

Prostatitis, seminal vesiculitis and posterior urethritis are as a rule concurrent conditions. Some prominent urologists say that inflammation of these strictures is the most frequent cause of the morning drop. My experience has been that a prostatitis specific or non-specific together with a posterior urethritis is often present in patients who complain of this symptom.

Treatment would be massage together with local applications to the posterior urethra. In some instances it is advisable to administer a vaccine, but this should not be done until cultures have been made to determine the exact nature of the invading micro-organism.

Cowper's glands opening as they do directly into the bulbus portion of the urethra and the mucous membrane being continuous with the mucous membrane of the urethra render them very liable to infection. The

condition is rarely recognized unless the gland supurates and appears externally as an abscess. In the event that the opening is external a fistula will result but the rule is for it to close spontaneously. Healing is often delayed for a considerable length of time.

Infection of the anterior urethra due to a long prepuce with an accompanying balanitis or balanoposthitis should be treated by circumcision. It is sometimes necessary to treat the balanitis before doing this for otherwise the line of incision will become infected. Recovery following circumcision is usually prompt but occasionally the urethritis will have to be treated subsequent to the operation.

Infection coincident with a small meatus is a rare occurrence, but I have seen one patient in which this was evidently the sole cause. Recovery was prompt following meatotomy.

Of the new growths papilloma is the most common, polypi are sometimes seen, malignant growths are rare. Papilloma may be present in both the anterior and posterior urethra. They are treated by means of the high frequency current. Cysts are mostly of the retention variety and are found in that part of the urethra supplied with glands. Their discovery is accidental for there are no distinguishing symptoms. I have seen fifteen or twenty in urethra. The treatment would be to open and to destroy the secreting surface.

Malignant tumors are very rare, in fact only two cases have been reported in the United States and not more than sixty in the medical literature.

Of the mechanical causes irritation and thickening of the mucous membrane due to long continued treatment with strong antiseptics and hot water is the most prevalent. This is especially so when the patient is alarmed over his condition and insists on milking or squeezing the urethra every morning in search of his morning drop. When the infecting micro-organism can no longer be found and when the epithelial cells predominate in a urethral discharge the condition can safely be said to be due to irritation. A mild astringent should then be used and one of the best is cold water as an irrigation. The patient should be told that squeezing or milking his urethra will cause a continuance of the symptoms.

Irritation of the prostate gland follows prolonged sexual excitement without sexual intercourse. This is seen in young men and is often followed by infection unless treated at once. The prostatitis is of a severe grade and is accompanied by frequent desire to urinate and vesical tenesmus.

Removal of the inguinal glands especially thorough removal bilaterally will cause a slight urethral discharge because of interference with the normal lymphatic drainage from the urethra. The condition corrects itself after a lapse of a few months. No treatment is indicated.

417 Empire Building.

RELATION OF ENDOTHELIUM TO PURPURAS AND ALLIED DISTURBANCES.

By Dr. E. C. Thrash, Atlanta.

Uncle Remus once said: "Some poet whose pipes are of sufficient range and volume should write an ode to corn."

My thoughts, observations and studies of endothelial cells during recent years have caused me to feel that the combined knowledge of biological and immunilogical scientists will, in the near future, write into physiology and pathology a story of this cell that will be an awakening to its observers.

The most intensive and strongest attribute of life processes is defense, and, in the writers opinion, the most powerful factor in the defense of warm blooded animals is the endothelial cell. In my earlier reflections I was inclined to give the palm to leukocytes, but the defensive substances in these cells evolve from other cells, and chiefly from endothelium. They are saturated with plasma containing antibodies derived from this viscus All credit was given white blood cells in the early studies of immunity while the blood plasma was overlooked. White blood cells, in other words, are only vehicles carrying protective substances built by the metabolic action of other cells.

All closed cavities and tubes, as we know, are lined with a thin glossy coat which we are too much inclined to think of as serving only the mechanical purpose of forming a part of the wall of the viscus which holds and aids in the distribution of the contained fluid. This civilian duty is only a minor one, and is performed by soldiers, ordinarily not in uniform, as these flattened cells can perform all usual duties in secreting defensive substances or antibodies without becoming globular and thereby inefficient in forming tubes for carrying fluid. When they assume this globular shape their sole function is to fight and they become poor fluid containers and some of the latter may leak out. This introduction enables me to present the subject matter of this essay more intelligently.

One of the first steps in immunity is agglutination or the clumping of the substances to be destroyed. The purpose of this, no doubt, is to lodge them in small capillary areas where they may be at rest for a period sufficiently long for phagocytic activities to lend their aid to the destruction of the invading enemy. Our first impressions of this phagocytic process was that it is carried on entirely by the polymorphonuclear leukocytes, but the endothelial cells of the capillaries surrounding these clumps of bacteria play the chief role directly and indirectly in this destructive process.

It may appear a far cry from these statements to purpura and allied processes, but the writer shall attempt to show that they are directly associated with and the cause of them. When a powerful enemy has invaded the economy these endothelial civilian-soldier cells become so active as soldiers that their civilian duties are neglected. When these cells assume defensive duties they become globular and mitotic. In ordinary invasions of foreign substances that disturb the tissues there is a balance between the defensive and mechanical action of the cells and endothelial walls of the tubes maintain their integrity. If the poison is virulent and severe, producing a profound disturbance as it courses along the blood stream, the cells along the walls of the stream bring forth a powerful effort to remove it. They not only secrete antibodies but rise up and project into the stream to catch passing bacteria by their agglutinic action and destroy them. This may or may not be successful. If there is failure an inflammatory exudate is the result, terminating in thrombosis. No thrombus can begin in a normal vessel wall, but must have its origin in a pathological and physiological action of this kind. Thrombotic phlebitis, so familiar to us all, is an example.

Some bacteria enter easily into dissolution by the action of antibodies while others do not. I shall attempt to show how endothelial cells behave in the presence of them both. The most important of the latter class are the tubercle bacillus and spirochete. I shall discuss only the tubercle bacillus as spirochetic activities are more complex, and the essay must be limited. This bacillus, clumps as usual, lodges in the capillaries but on account of its waxy consistency does not go easily into dissolution. The result is, an attempt is made to wall it in and this is accomplished by the endothelium of the capillaries rounding up and forming epithelioid cells. These cells lose their flattened shape in forming a protective wall around the germs therefore the capillaries must disappear. The wall is built around the invading germs by cells derived from several sources, many of them being migratory but chiefly from the endothelium of the capillary vessels. For this reason blood vessels disappear rendering tubercles nonvascular. If this process becomes exceedingly active capillary vessels may be disintegrated more rapidly than the blood flow can be cared for, and in this way capillary hemorrhages in incipient tuberculosis may take place before there are any other clinical signs or symptoms of the disease existing, the blood passing into the air vessicles instead of into the adjacent tissues, and is often the first warning of the appearance of the disease. This tells the story of other toxic capillary hemorrhages except there is not a defensive walling off of those bacteria that are easily disintegrated.

In profound intoxications like yellow fever, streptoccus infections, virulent chemi-

cal poisonings, small pox, severe exanthematous disease, snake venom, typhoid fever and typhus fever endothelial cell activities for immunizing purposes may become so great that a hemorrhagic condition may appear due to general capillary disintegration on account of the cells in the walls of these vessels changing their morphology for defensive purposes. There either may or may not be a clumping of bacteria and plugging of the arterioles causing microscopic infarcts, though when the vessels are occluded in this way the hemorrhage would naturally be greater.

I purposely did not mention hemorrhagic malaria in this connection because that is produced from capillary disintegration caused not only from endothelial cell changes for immunizing processes but also from the blocking of the capillaries that are too small to allow red blood cells containing full grown schizonts to pass through them, causing the vessels to disintegrate. Many capillaries are too small to transmit even normal red blood cells without the latter folding as they pass through. The schizonts usually remain lodged until they sporulate but at the same time there is an effort on the part of the cells to destroy them when the endothlial cells become too active, however, the effort of defense aborts and hemorrhage follows. Myelogenous leukemia produces purpura and hemorrhage by the myelocytes blocking the capillaries in the same way. In malaria and cukemia the capillaries are blocked by enlarged or over developed pathologic blood cells, while in infections the same results are produced by agglutinated bacteria.

Cell structures busy themselves as much in defending the body against endogenous or animal poisons as against bacterial toxines, so we may have either hemorrhage or edematous disturbances or both where only poisons exist as chemical substances, food poisoning serum, poisoning gas, snake venom, endocrinal disturbances and others. They are hemorrhagic or edematous or both in proportion to the severity. Edema of this type is erroneously called angioneurotic edema and is produced by the endothelial cells making an effort to remove the poison. These cells round up and separate from each other sufficiently for the serum to pass out into the tissues but not so much as to permit the red blood cells to pass. Should the poisons be virulent enough to effect the cells more profoundly or should there be clumps of toxic organic matter as bacteria to become impacted in the vessels then there may be purpuras or frank hemorrhages. These may be either associated or not with edema, erythema, or examthems.

Summary: Idiopathic capillary hemorrhages, purpuras, angioneurotic edema, and petechial hemorrhages result from the endothelial cells of the capillaries, arterioles and venules, changing from flattened tube forming structures to mitotic globular cells for the purpose of defending the economy against an invading enemy in the form of chemical, bacterial, animal or endogenous poisons, and in this way disintegrate the capillaries, arterioles and venules, leaving them in such a state that through their walls serum may transude to produce edema, red cells may pass out by diapedesis to produce purpura; and, from their ends, blood may flow to produce a frank hemorrhage.

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Editorials

"GOD'S FINGER TOUCHED HIM AND HE SLEPT."

Doctor E. P. Merritt, of Atlanta, Councillor for the Fifth District and Secretary of the Fulton County Medical Society, is dead. This simple statement, to those who did not know of his passing, is sufficient to build a greater monument to his memory than could be erected by pen or with polished stones. There will instantly be builded within the hearts of those who knew and loved him a memorial beyond the scope of human endeavor, and this intangible monument will live on and on so long as the purely human is subject to such impressions as Doctor Meritt made and left.

There is no way to compute the influence of one's life upon our hearts and destinies. There is no way to know just what any part of our life really means to us, unless, perhaps, it is through the loss of it, and then there is usually that compensation found which makes for a re-adjustment, as it were, and we are thought to be ourselves, complete, again.

"Price" Merritt made himself such a part of his friend's lives; such a part of everything with which he was concerned, and friends came first, that it is hard to believe those who came within his wide circle of friends can fill the void caused by his going. There is that mute evidence of grief evident among his friends who suffer silently and miss him deeply and more deeply as the days toll into weeks.

The medical profession has lost one of its most aggressive, ambitious and competent men. His friends have had broken the continuity of a bond which will probably never regenerate.

A. E.

HEALTH OFFICER'S MEETING.

A conference of State and county health officers was held at the office of the State Board of Health in Atlanta, July the thirtieth and thirty-first, nineteen hundred and nineteen.

The meeting was called to order at 10 A. M. by Dr. T. F. Abercrombie, secretary of the State Board of Health. After a short address of welcome Dr. Abercrombie vacated the chair in favor of Dr. M. F. Haygood. The business of the conference proceeded.

Dr. J. W. Hurt, visiting physician, was invited to address the conference. He gave a short and instructive talk on the inspection of school children. Surgeon Joe P. Bowdoin, venereal control officer for Georgia, gave an address on venereal disease legislation. He read the venereal disease laws passed by the Georgia Legislature, and deplored the fact that an appropriation from the State for this necessary work was difficult to obtain. Surgeon Gowdoin was followed by Dr. W. A. Davis, director of Bureau of Vital Statistics. Dr. Davis called attention to the fact that the registrars, under the new law, were the city clerks in the cities and towns, and the justices of peace in militia districts outside of cities and towns. He stressed the fact that statistics were the very cornerstone of preventive medicine.

Mr. Joseph P. Faulkner, secretary of the Raoul Foundation funds, addressed the meeting on the organization for the control of tuberculosis. He showed that our tubercular rate is decreasing, prophesied that Alto would become the Saranac of the South, and lamented the difficulty of obtaining an appropriation for this vital work. Dr. Glidden, being unavoidably detained, Dr. Haygood, director of Division of Epidemiology, then read a paper on a few small things that handicapped the health officer. Anyone of experience in this line of work could realize the timeliness of Dr. Haygood's paper, touching as it did, the minor annoyances that we all experience in the days work.

At the conclusion of Dr. Haygood's paper, a recess was ordered and the sanitarians dispersed for dinner.

The meeting was called to order for the afternoon session at 2:30 P. M. Mr. T. F. Sellers, director of laboratories, read the instructions issued by the State Board of Health as to the proper technique for sending in specimens for examinations. Mr. Sellers stated that while these instructions were simple and easily carried out, some quite reputable physicians would send in specimens in a careless and dangerous manner. He also commented on the physician who would send in his specimen with no name or address attached. The only test possible for specimens so sent in, said he, was the sink test. Mr. Sellers was followed by Miss Chloe Allen. Miss Allen told in detail the manufacture of anti-typhoid vaccine and requested that physicians in the county order no more than is necessary as the manufacture of this vaccine is a painstaking operation and the laboratory was overworked. Discussion of this paper was necessarily brief as Miss Allen modestly refused to be questioned.

Mr. L. E. Webb, Serologist, then discussed the Wasserman test for syphilis. Mr. Webb explained that after the blood was drawn by the Wasserman test, it should be allowed to clot before mailing. He requested that an ample supply of blood be sent in for this test, informing the conference that frequently physicians would send in as little as one cubic centimeter, an amount wholly inadequate. Mr. Webb was followed by Mr. Ray C. Werner, whose subject was water analysis. Mr. Werner in an instructive paper, discussed the interpretation and result from the standpoint of what the local health officer should know about his water supply.

Next article on the program was "sanitary privies" by Dr. C. C. Applewhite, of the United States Public Health Service. Dr. Applewhite gave a splendid exposition of his subject and impressed his hearers with his thorough grasp of the subject. He favored the can type of privy for small towns and cities, the double compartmented concrete vault for rural districts, and the U. R. S. septic tank for schools.

Dr. Applewhite was followed by Mr. Sellers in an interesting article on the Interpretation of Laboratory Reports. The conclud-

ing event of this day's session was Dr. W. A. Davis with an interesting exhibit of charts on morbidity and morality. This ended the first day's session of the school conference.

On July the thirty-first, at 10 A. M., the school for sanitarians reassembled. Visitors present at this session included the superintendent of the schools of Fulton county, and visiting physicians. The first paper of the day on the anti-malarial campaign in Moultrie, Georgia, was read by Dr. G. M. Anderson, commissioner of health. Dr. Anderson commenced his paper by stating that Moultrie was the garden spot of the United States. As his paper disclosed conditions in Moultrie there arose some slight bewilderment in the minds of his hearers, until finally the light burst upon their intelligence—Moultrie was the garden spot of mosquitoes. However, as the paper unfolded, it was realized that Dr. Anderson's description showed Moultrie before the anti-malarial campaign was commenced.

Following Dr. Anderson, Dr. John Schreiber talked of physical education in the schools. Dr. Schreiber maintained the boy from the country could be told at sight from his posture. He advocated that all pupils in the schools be stood against the wall with hips, heels, head and shoulders touching, to illustrate the correct posture, and that a course of setting up exercises be a part of the curriculum of country schools. This paper was interestingly discussed by the superintendent of schools for Fulton county and by Mr. Joe P. Faulkner of the Raoul Foundation. Dr. Blackwelder, commissioner of health for Troup county, read an interesting paper on medical inspection of school children. Dr. R. W. Todd, commissioner of health at Brunswick, Georgia, read a paper on the sanitary handling of food and drinks and a recess was declared for dinner.

At 2:30 P. M. the conference reassembled for their final session. Dr. O. H. Cheek, commissioner of health at Dublin, Georgia, read a paper of Hookworm Eradication. This was followed by Dr. T. W. Taylor, of Sylvester, Georgia, on "sanitary closets." Dr. Taylor's paper aroused a lively discussion and it seemed that there were as many opinions about sanitary closets as there were members of the conference. Dr. Taylor's definition of a sanitary closet "as one that has not hitherto been mentioned in this conference" seemed rather sweeping. Dr. Taylor was followed by Dr. R. A. Herring, commissioner of health at Milledgeville, Georgia, who started under his title "Control of Communicable Diseases," a critical and scientifically accurate thesis that was of great interest but unfortunately was too long for the fifteen minutes allowed him. This necessitated the omission of a part. Dr. R. L. DeSaussure, commissioner of health for Floyd county, read a paper on Combining County and City Health Work. His conclusion was averse. Dr. B. F. Bond, commissioner of health of Americus, then read a paper on typhoid vaccination, and the meeting adjourned.

WHY TUBERCULOUS PERSONS WITHOUT FUNDS SHOULD NOT LEAVE THEIR HOME STATES.

It is reliably estimated that several hundred tuberculous persons without funds come to Denver every year. Practically all of them come because they have the mistaken idea that climate will cure tuberculosis.

They arrive, almost penniless, without having made any inquiries, or any provisions for their needs. Since Colorado has no state, and Denver no municipal tuberculosis sanatorium (merely a ward at the County Hospital for thirty-five very sick tuberculous residents), the care of such indigent persons is limited to a few free private sanatoria, which are continuously so overtaxed that admittance is a long and difficult matter. These sanatoria comprise: the two Jewish, which accept only a small number of Gentiles; a tent colony of men with a capacity of seventy "down-and-outers;" and a small home for a dozen destitute tuberculous women.

These tuberculous poor who migrate to Denver, finding no place where they can be cared for, look for light work in order to maintain themselves and often their dependent families; but the demand for such work is far in excess of the supply. Driven to any

work they can get, with neither friends nor care, anxious, homesick, hopeless, they rapidly grow worse, and usually soon die. They die for lack of proper rest, food, fresh air, and medical attention, those essentials of treatment, which many of them could have had at home—or here with sufficient funds for two years' care. Without these essentials climate is of no avail. If it were, Denver would welcome these tragic health-seekers instead of urging them, for their own best chances, to stay at home.

Denver also urges that the states throughout the country plan definite programs to retain their indigent tuberculous, giving them effective treatment in state sanatoria or in their own homes.

THE DENVER ANTI-TUBERCULOSIS SOCIETY,

221 Coronado Building, Denver, Colorado.

THIRD SURVEY OF HOSPITALS.

The third survey of hospitals being made under the auspices of the American Medical Association is now well under way. Through an extensive correspondence and a third questionnaire the Association has collected a mass of information on the subject. Much of this material has been tabulated and forwarded to committees in each state representing the state medical associations. Most of the state committees have arranged definite lines of action and by inspection of the hospitals or by other methods are securing first-hand information by which the data collected by the Association is being carefully checked. The immediate end sought is to provide a reliable list of hospitals which are in position to furnish a satisfactory intern training. The investigation is not limited to intern hospitals, however, but will cover all institutions and the data obtained will be useful in any future action which may be taken in classifying hospitals. The work in Georgia is in charge of a committee of which Dr. E. Bates Black, of Atlanta, is chairman, the other two members being Dr. E. G. Jones, President of the Medical Association of Georgia, Atlanta, and Dr. H. H. Martin, Savannah. The closer relationship which the hospital now bears to the public in the community which it serves makes it all the more important that the service rendered by it shall be excellent in character.

Influenza

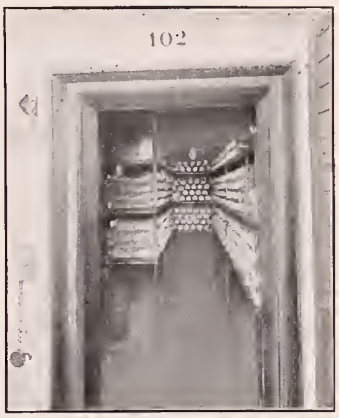
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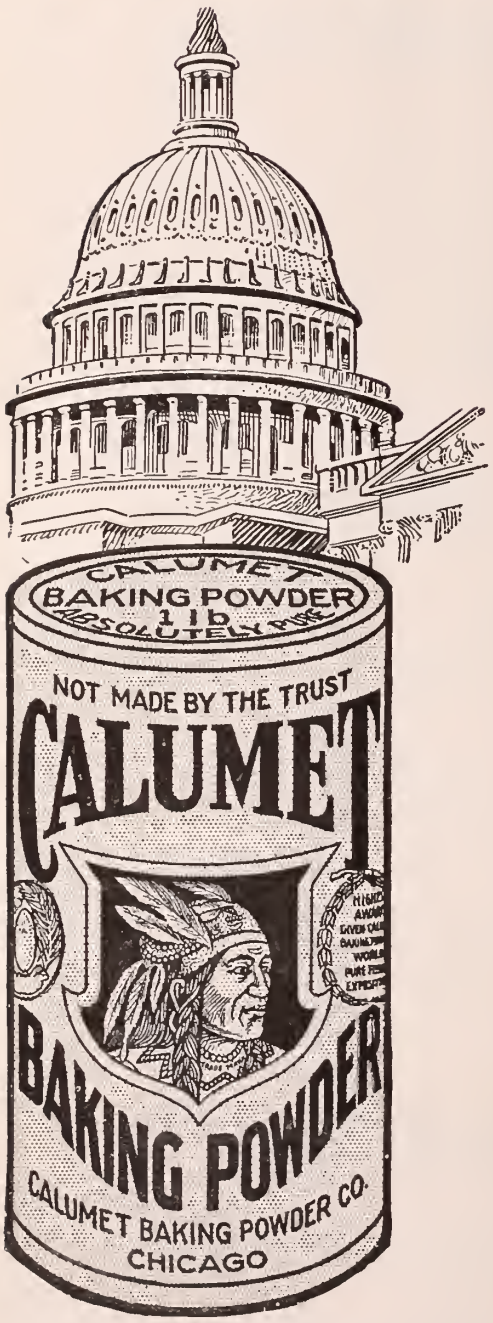
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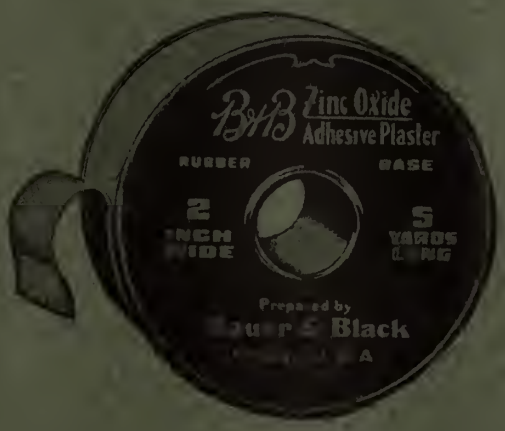
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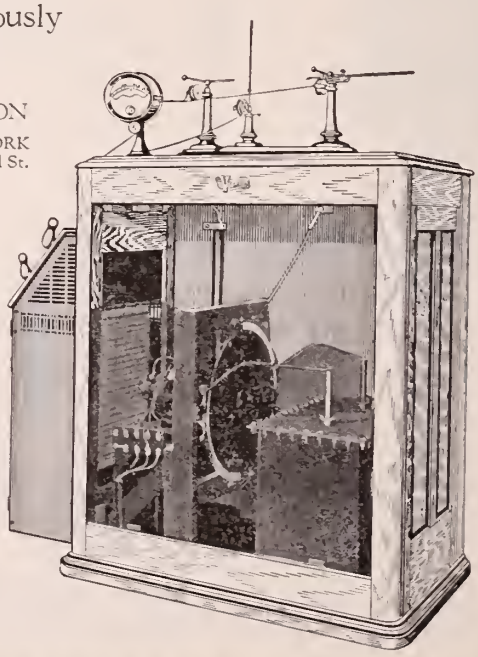
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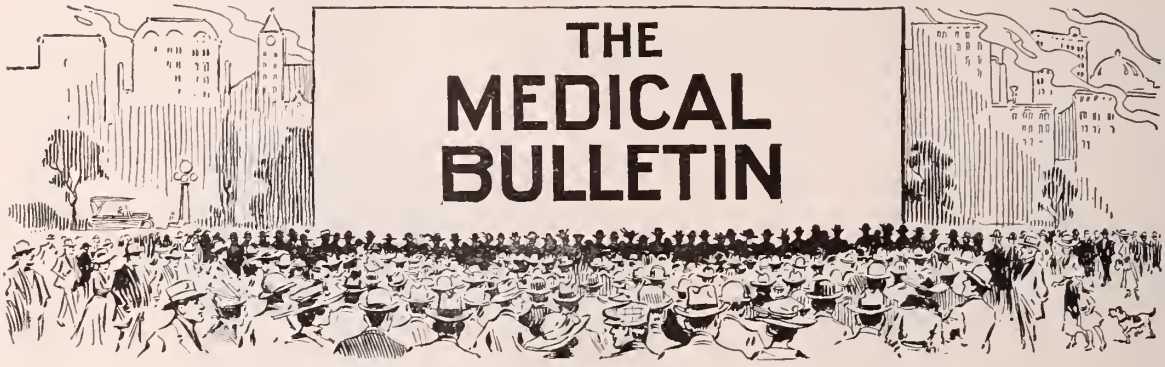
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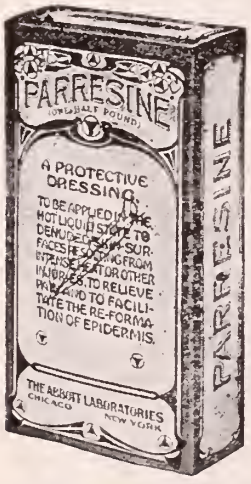


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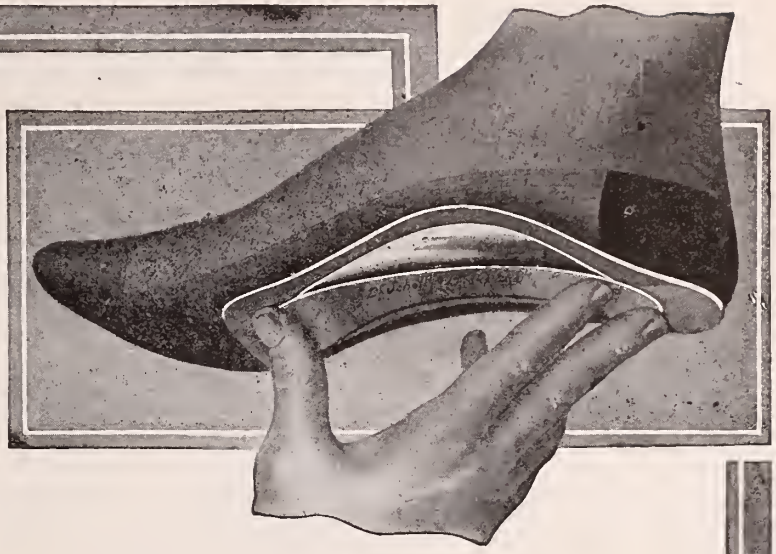
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TRICHOCEPHALIASIS AND APPENDICITIS.

REPORT OF CASE.

Louis Hannah M.D.
Sandersville Georgia.

History: Miss M. P., of Glenwood, Ga., age 13, admitted to sanitarium April 21, 1918, for operation the following morning. A diagnosis of post-operative peritoneal adhesions had been made by family physician. The history of case is of no significance other than that, following removal of appendix Jan. 27, 1916, patient experienced some relief of symptoms for one month. Thereafter she frequently complained of vague pains and tenderness on pressure over area of caecum. Neither drawing nor tearing sensations, such as arise from adhesions, were admitted, and constipation and other gastro-intestinal disturbances were denied.

On inspection, patient appeared robust and a picture of health. During conversation, however, she occasionally exhibited a tendency to hysterical emotions,—a psychosis probably analogous to the neuro-mental aberrations attending hookworm and other helminth infections. Physical examination, otherwise, revealed only the local tenderness on deep pressure over caecum, which apparently was of neurotic origin.

Laboratory findings: Urine negative. Blood shows hemoglobin 60 per-cent. On examination of smear, blood picture indicates secondary anemia, with eosinophilia. Relative count of the cosinophiles gave 15 per-cent of the total leukocytes. There was no malaria present and the blood otherwise was uninteresting. Examination of feces revealed an abundance of Trichocephalus trichiurus ova, which are characteristic and unmistakable for those of any other parasite.

Here, it might be well to state that discovery of these parasites resulted from examination of the blood smear, with reference to the eosinophilia. Helminthiasis previously had never been suspected, as no gastro-intertinal symptoms were evident, and intestinal parasites have never been regarded seriously, as well as the writer is informed, as a factor in the etiology of appendicitis or other pathological conditions referable to the right iliac region of the abdomen.

The purpose of this essay is not so much to cite a case of trichocephalus infection, as to emphasize the etiologic factor of this and other intestinal parasites in the production of symptoms, which, after failure of diagnosis, come to the attention of the surgeon. While it is impossible to say positively that the presence of these worms, probably in enormous numbers, in the caecum, developed the symptoms described in this case or gave rise to the attack of appendicitis, it is certainly significant that the original complaint was not removed by operation, that no typical symptoms of adhesions were in evidence, and that the condition of appendix—found at operation to be only slightly inflamed and distended with gas—was not one likely to give rise to adhesions. As further reason for considering the role of intestinal worms in the causation of abdominal symptoms, the writer has been singerlarly impressed with the coincidence of anchylostomiasis with appendicitis, or diagnoses of this condition. Unfortunately, no record of these instances has been kept, but I can state with certainty that the incidence of uncinaria represents at least 40 per-cent of a series of 50 cases, in which the writer has had opportunities to correlate laboratory findings with the clinical diagnosis of appendicitis. Also, in a surprising number of instances have patients, following appendectomies, returned with their symptoms apparently unrelieved, and upon further investigation were found to harbor hookworms. In these cases from one to

three courses of hookworm treatment effected a cure. It is not to be implied that an alarming percentage of such cases are mistaken for surgical conditions, for they are often co-existing entities, but a certain margin of error undoubtedly obtains in a diagnosis between the two. In the case of trichocephalus infection, we have a parasite approximately two inches in length, fastened securely to inner wall of the caecum and colon, at times present in enormous numbers, and strongly resistant to eradication. These worms also have even been found in the vermiform appendix. While it is generally conceded that whipworms rarely produce symptoms, it is difficult to doubt that their invasion in the case at hand was responsible for the attending complaint. Had we succeeded in ridding the patient of the infection, with resulting relief of symptoms, all doubt of the etiology would have been dispelled. However, there is no remedy known which can be depended upon to dislodge these parasites. Hence our diagnosis and conclusions are based on the following facts: presence of ova in the feces, localization of symptoms about the caecum and adjacent colon, presence of anemia, and the absence of other evidence, clinical or pathological, to account for the symptoms.

As to the frequency of trichocephalus, or whipworm, infection, we know that it is very common in Europe, especially in southern Italy, and Strong considers it common in Cuba and tropical America; but I feel constrained to doubt the authority of a recent author in stating that it is "probably the commonest intestinal worm in America." Personally the writer has seen comparatively few references to this nematode in the literature, and knowledge regarding it is scant. In at least 2,000 stool examinations, I have encountered the infection in but this one instance. Certainly it is decidedly uncommon in this section of the United States.

As to treatment, none was instituted in the above case, as the patient left sanitarium when advised that another condition had been disclosed and that operation would at least be deferred. Why the patient did not remain for treatment I am not informed, and unfortunately the case was afterwards lost sight of. Regarding the eradication of these worms, I do not know of any specific remedy. It is to be hoped that some method of treatment will be found which will prove as effective as thymol and chenopodium against hookworms.

It is interesting in this connection to note that Strong,* of Preston, Cuba, published, at the time this case was under observation, a report of six cases of trichocephalus infection, from which he concluded, in refutation of its regarded nonpathogenicity, that the parasite "can give rise to very annoying and even severe symptoms." As these reports might be objected to on the ground of incompleteness, because the worm itself was not obtained and identified, it is perhaps well also to state, that after trying several of the most powerful vermifuges in the treatment of his cases, Strong was unable to expel a single whipworm. However, the presence of the characteristic trichocephalus ova in feces is diagnostic of the presence of the parasite. The eggs of no intestinal worm, not excepting anchylostoma, have clearer markings nor can be more readily identified by the experienced observer than the brownish, lemon-shaped, double-capped ova of the whipworm.

* S. B. Strong.—Trichocephalus Dispar.—Southern Medical Journal, Vol. 11, No. V, May 1918.

Conclusions.

1. A more careful and complete examination, especially of feces, should be made in all conditions of the gastro-intestinal tract, which do not demand immediate operation.

2. The presence of helminths should be considered in all subacute and chronic intestinal disturbances indicating surgical relief.

3. A routine study of the blood picture, with special consideration of eosinophilia, should be made in every examination of blood smears. I know of but one physiologic eosinophilia, that of menstruation in the female, which obtains with any degree of constancy. Where this change in the blood is found, we always have definite as well as a limited number of pathological conditions to search for.

ACIDOSIS—ALVEOLAR AIR—TENSION COMPARED WITH URINE ACIDITY.

T. D. Walker, Jr., Macon, Ga.

For ages clinicians have observed a group of symptoms associated with practically all classes of patients, this syndrome the main features of which consists of restlessness, prostration, pallor, air-hunger, etc., has been called prostration, nervousness toxaemae, etc., and many etiological factors have been given as the cause, but rather recent investigation has given this syndrome the name of acidosis. Acidosis I think has been confused with toxaemina, the two are due to totally different causes. Toxaema is due to toxins generated from some focus of infection and circulating in the blood, while an acidosis is a tendency towards acidity of the body tissues which may or may not be associated with an infection. There are three important questions to be answered, which are: WHAT IS AN ACIDOSIS? SECOND, HOW IS IT DETERMINED? THIRD, WHAT IS TO BE DONE AFTER IT IS DETERMINED? At present I think the term is very loosely applied. It is applied to restless nervous patients, those with acetone in their urine, and it has been said to occur in epidemic. It will be remembered that the body is constantly elaborating acids as the result of oxidative processes such as phosphoric, sulphuric, carbonic, lactic, uric, etc., but means are always being taken to neutralize such acids and under normal conditions, neutralization takes place. The alkalies that neutralize these acids are first, soda bicarbonate in the blood plasma and cells, second the alkaline phosphates of sodium and potassium found largely within the red cells, third the protean which can combine with acids or alkaline without undergoing marked changes in re-action and also the formation of ammonia neutralizes acids. Abnormal acids may be found in the urine or blood but it may not mean acidosis for they may be compensated for, by the way, enumerated above. They only become harmful when increased beyond the limit of neutralization or when alkalies are lost and normal acids gain the ascendency. WHAT THEN PRODUCES AN ACIDOSIS? IS THERE A PRODUCTION AND RENTETION OF NORMAL AND ABNORMAL ACIDS WHICH HAVE NOT BEEN DETERMINED? IS IT DUE TO A LACK OF EXCRETION OF THE KIDNEYS THEREBY RETAINING AN ACID URINE? ARE OLKALINES LOST EITHER THROUGH NEUTRALIZATION OR ELIMINATION? These questions remain to be answered, but we do not know that in this condition there is a tendency towards acidity of the blood and tissues. I say tendency advisebly for the blood nor tissues never become acid—for even with a neutral blood we could not live. The tendency to become acid is due to increased acids or decreased alkalies, and with this soda bicarbonate of the blood plasma is used up to presumably neutralize the increased acids or to take the place of alkalies lost. By the using up of soda bicarbonate the acid CO_2 is allowed to increase, which is normally neutralized by the soda. It is the change in the relation of alkalies to acids that determine an acidosis. How may this relation be recorded in a practical way in order that we might know when an acidosis has occurred? The changes may be recognized in several ways. The CO_2 of the blood may be determined, which tells you the deficiency of soda bicarbonate in the blood plasma. The hydrogen ions of the blood may be determined which gives you the acidity of the blood. The capacity of haemoglobia to combine with oxygen may be determined, the combining power being less in an acid condition. The proteans may be removed from the serium, evaporated and the filtrate titrated against phenolphthalien. But none of these methods are practical and cannot be done in general practice. The two things which are being done to determine an acidosis in a practical way is the determination of the amount of CO_2 in the air within the lungs, known as alveolar CO_2 tension. The other test is the determination of the total acidity of the urine which gives you the degree of acidosis. This I claim is wrong. The CO_2 test is as follows: The patient breathes into a rubber bag holding 500 C. C. of air, this air is inhaled and exhaled by the patient from twenty to thirty seconds, then

it is run through a standard soda bicarbonate solution colored with phenolphthalien. Phenolphthalien is red in an alkaline solution and colorless in an acid solution, therefore the acid CO_2 in the exhaled air will change the red color of the alkaline solution. We know normally the amount of CO_2 given off from the lungs, we also know the amount of soda bicarbonate in the blood plasma and the amount required to neutralize a given amount of CO_2. Therefore if there is an increase or decrease in the CO_2 given off from the lungs there is a corresponding change of color when the air is run through a phenolphthalien alkaline solution, the change in color is read off from a prepared standard scale which tells you the degrees of acidosis. The readings upon the scale range from 10 to 45—40 to 45 normal—10 to 15 profound acidosis. For instance if the alveolar air contains a large amount of CO_2 and this is recorded by a change in color of the alkaline solution we know the alkali is not deficient and there is not an abnormal increase in the acidity of the tissues, if on the other hand there is a very small amount of CO_2 given off from the lungs and there is no change in color of the alkaline solution, we know that the alkalies have been disturbed either through neutralization or increased acids and the acid CO_2 is retained in the body. It is this retention of CO_2 that produces hyperphea which is the most important clinical symptom of acidosis. This test is simple and accurate for all practical purposes if the technic is closely followed.

Now in regard to the urine, the total acidity is determined in the following way. In a graduated tube place 10 C. C. of urine, add two drops of a .5 per cent of phenolphthalien then add deci-normal sodium-hydroxide until the urine turns red or pink. This outfit can be obtained from Louis Everhart, Atlanta, Ga., Hurt Building. Then read off the percentage of acidity. The tube is graduated from 10 to 100 per cent. 20 to 30 being normal, above that means acidosis As I have said before phenolphthalien is colorless in an acid solution but red in an alkaline solution, therefore phenolphthalien in an acid urine is colorless, but when the acidity is overcome by the addition of an alkali the red or pink color is produced, this point being read off. This test was used several years ago, then being called the hyperacidity test, it was used in rheumatism and other conditions which were supposed to be due to much acid in the body. After a few years the test was given up as fallacious. It depends upon so many factors such as single specimens, twenty-four hour specimens, diet. I have dicted children in the orphans' home and the end results are useless. Let me give you a few comparisons. A woman with a perfect picture of toxaemia of pregnancy with high blood pressure, nausea and vomiting, headache, had an alveolar air tension of 15 mn. (profound acidosis); urine acidity 40 (practically normal). Case No. 2, child three years of age, phylitis was seen three days after on set, physical condition excellent, alveolar air tension 35 mn., normal. Urine acidity 200 per cent. (profound acidosis), from the urine you would have thought the child was in eminent danger. Case No. 3, child two years of age, acute nephritis following tonsilitis, alveolar air 30, normal, urine acidity only 30, normal. Pus in this urine but why acidity so low compared to pyelitis? Why this difference? I do not know. I have examined the urine of a great many children during May and June and there are the widest variations in the acidity under apparently the same condition. A child the first one or two days of a disease, say with colitis, will have an acidity of 100 per cent., another child with the same condition will have an acidity of 30 per cent. and as the disease progresses the acidities will become reverse. In practically all diseases there is a variation in the acidity of the urine, usually an increase but this condition cannot be relied upon as an index, as to the patient's condition. WHAT IS TO BE DONE AFTER AN ACIDOSIS HAS BEEN DETERMINED? I think harm has come from the fact that we have thought more of acidosis than we have the condition producing it. When we determine an acidosis the interpretation should mean exactly the same thing as that of a thermometer interpretation, that is, that a profound chemical change is taking place in the body and we should first combat the disease and

secondarily its sequela, as fever by sponging, acidosis by alkalies, delirium by sedative, etc.

May I say one word in regard to treatment? Keeping the urine alkaline will not always prevent the acetone from being present in the urine. The presence of acetone in the urine, if glyeosuria does not exist as it often does with acidosis, maltose should be given as a fat sparer. In conclusion, I would say the first consideration is the patient. If you suspect an acidosis interpret your findings just as you would a blood count for appendicitis or as you would if your thermometer registered a temperature of 104. Test the urine re-action with phenolphthalien and sodium-hydroxide that you might know that you have your patient alkalinized but do not use it to determine an acidosis.

*This instrument can be obtained from Hynson, Westcott, Dunning, Baltimore, Md.

PERNICIOUSNESS OF CONSIDERING THE REST CURE A PANACEA FOR "NERVOUS PEOPLE."

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There is a persistent habit among physicians in general to class all cases which present the features of mental and physical depression, physical depression combined with states of more or less excitement, and a heterogeneous group of neuroses and phychoses, which do not exhibit those gross mental abnormalities to which a layman would apply the term "nutty," under the head of "Nervous Breakdown" or "Nervous Prostration." Then, having arrived at this diagnosis, the next plausible step is the institution of the "Rest Cure," combined or uncombined with overfeeding. What led up to a conception of the timeliness of some moving finger to write "Mene, Mene, Tekel Upharsin" is the instance of two cases of a psychosis of a frank Manic—Depressive type received by us after having undergone the "Rest Cure" for many weeks because of the diagnosis of "Nervous Breakdown." These cases received the "Rest Cure" during the one stage of their illness when its course might have been influenced by proper psychotherapeutic measures.

Predicating that such disorders arise from an instability of certain nerve cells which in turn was caused by under nutrition of these cells, it was decided that, fat being closely related in structure to that of nervous tissue, the patient must be supplied with an excess of such material. In turn it was found that these ends could be most readily attained by rest in bed. And thus sprang up the healing herb, the panacea for all "nervous" disorders of a "functional" nature.

Having arrived at a more plausible and inherently reasonable view of the etiology and psychopathological facts underlying disorders of this tpye, we are driven to the conclusion that the beneficial results accruing from such treatment arise from two factors: the personality of the physician with its suggestive balance and the isolation with separation from unsatisfactory environment: that is, that the main effect of the treatment is mental. But the variation in results and many disappointing failures show us that we can not have a physical method on which we can place reliance.

On the other hand, in many instances the patient is delivered into the hands of the Philistines. First: with such a heterogeneous group to which this method is applied there is no rational course open save through a thorough understanding of each individual case. We have found this to be precarious indeed unless we can arrive at a knowledge of those complexes which are the causitive factors in a particular case.

Secondly: suggestive therapy no matter what the personality of the physician is at best symptomatic treatment. It is true that under some circumstances by symptomatic treatment a patient is given an opportunity to gain that balance which is essential to his psychical welfare. But these cases are rare. On the other hand these measures may affect the patient actually deleteriously according to his mental make-up. Through complex associations the process of overfeeding may bring forward certain buried thoughts con-

nected with food which in turn may aggravate the existing symptoms. These possibilities, depending on the individual make-up, might be multiplied many fold. Thus it is seen that the influence of the treatment on various individuals is much more complex than will appear on superficial observation.

Thirdly: isolation may or may not be beneficial. One of the most potent factors in the production of psychical disorders is pathogenic social relations. Removal from such an environment will often bring well nigh miraculous results in clearing up symptoms. But we have taken the line of least resistance and the patient is in no wise fortified against a return to such an environment. The only means for radical cure is the building up of resources whereby the patient can adequately cope with his problems and associations. On the other hand such isolation is most pregnant with possibilities for harm. It may even be calamitous. It gives an opportunity for pernicious introspection and the developing of hypochondriacal ideas with no outlet for disharmonious tendencies.

Lastly: all the means used under the heading of "Rest Cure" have their value in certain instances as adjuncts to rational therapy. It may be advisable to give the patient the physical stimulation combined under feeding and mechanical measures. As a last resort it may be even necessary to remove from an unsatisfactory home environment. But under these latter circumstances care should be exercised to give the patient suitable outlet and diversion in properly graded occupation. And all of these measures must be applied rationally and because there is a reason. And the only source of rational therapy is the proper understanding of the etiological factors in each individual case: that is, the psychical complexes underlying. Thus a thorough understanding of the causative factors and mechanism of the disorder with the early application of rational therapeutic measures and not those of the "Rule of Thumb" variety are of paramount importance. Hence in the future when these cases are met with "haec olim meminisse juvabit."

FATIGUE.

Roy J. Holmes, M. D.,

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Dissimilative activity of sufficient intensity invariably produces, in all living beings, a reduction of the functional power. That this reduction is more pronounced in certain individuals than in others, and, that the phenomina is not entirely caused by the products formed in metabolism, are facts freely accepted, although, as yet, unexplained.

Thus, if the blood of an exhausted dog be injected into the vein of a fresh dog, the later immediately exhibits very evident signs of fatigue. Undoubtedly there are certain waste products carried away by the circulation of the blood and lymph. After the elimination of this product the exhausted organ or muscle readily resumes its normal activity. This indeed seems very simple, but when we observe the same phenomina in muscles, namely, the power to regain their normal activity after rest, after they have been cut out of the body, and thereby deprived of their circulation, we immediately encounter an obstacle worthy of some consideration.

A frog's muscle which by repeated stimulation has been brought to a condition where it cannot contract at all, recovers and becomes functional again in spite of the fact that there is no circulation to carry away waste products. This experiment carried out by stimulating the sciatic nerve and thereby producing a condition of fatigue of the muscle, is familiar to every student of physiology. It remained for Bernstein to go still further and prove that the nerve proper is but very slightly if at all affected by the stimulation, or, in other words, that the nerve is certainly less capable of fatigue than the muscle.

According to Waller "contractions can still be induced by direct stimulation long after the muscle fails to respond to a tetanizing stimulus applied to its nerve. Since the nerve itself does not fatigue we must suppose that the nerve endings fatigue much earlier than the muscle substance itself."

Through a process of elimination we then conclude that nerve endings are very susceptible, if not more susceptible, to fatigue than any other factors in the entire body. The importance of this fact cannot be underestimated. The nerve endings are vital links in the chain from the organ to the source of its impulses. When once broken or thrown out of functional activity the impulse, of course, cannot reach the organ through the nerve. Since every organ in the body with the possible exception of the brain, is subject to serious derangements by fatigue of the delicate end plates, it remains that we should consider every patient with multiple and obscure symptoms, in terms of fatigue before consigning him to that seemingly exhaustless dust-bin of the Neurologist known as Neurasthenia. Personally, I have never seen a case of so called Neurasthenia that did not present some element of fatigue. Almost invariably they give a history of either mental or physical over-work. They are "worn out," nervous, and usually without energy, while almost invariably they respond to the logical and physiological opponent of fatigue, namely, rest. The fact that a patient wears diamonds on nearly every finger and lounges in the arms of luxury does not mean that he or she is not subject to fatigue. Excess stimulation of the end plates can come from a guilty conscience, a brain over burdened with the frivolities of life and sexual hyperesthesia as well as from strong muscular arms that have been subjected to the "lure of the wash-tub."

There are other conditions that resemble fatigue very closely. If my reader will pardon me just a moment for writing in the first person, I will attempt to draw a comparison that impressed me very forcibly.

Several days ago I stood at the players' entrance to one of our great football fields after a very strenuous game. I saw the mighty warriors of the gridiron as they passed, and wondered if Kocher could have selected from all his clinics eleven patients who could have presented more accurate and pronounced symptoms of Hyperthroidism without enlargement of the gland. Wild, staring eyes that bulged from their sockets, hands that trembled, faces flushed and moist, chests rising and falling rapidly. Onward they passed with only one object in view—one thought more important in their minds than all the tributes from their comrades—Rest.

These are some of the symptoms of fatigue. Add the Tachycardia and the picture is almost complete. May I enter the realms of Supposition? Then suppose these symptoms would not respond to treatment for an indefinite length of time. Suppose one of these football players should come into your office a month later and present the same picture without any apparent cause for the disturbance. Personally, I think I would advise either ligations of the Thyroid arteries or Thyroidectomy.

It remains for future observers to decide whether or not Hyperthroidism is primarily a fatigue disorder. Certainly the condition is more common among individuals who are really "fatiguable." Comparatively little is known about the contents of living cells. I can only suggest that it is within the realms of possibility that cells deprived of their nutrition may contain within themselves some chemical stimulus for fatigued nerve endings. Whether this material is secreted by the glands of internal secretion, I cannot say.

Dr. John Rogers of New York City, has succeeded in demonstrating that certain of the hormones when given to the dog in the form of his "resudue" are capable of stimulating the Vagus group of nerves while other hormones seem to have the same affinity for the Sympathetic group. His results are absolutely negative when the nerve endings are thrown out of action by curare or other drugs.

The fatigue neurosos are worthy of careful study and more experimental work along that line. The subject of Hormone Therapy is in its infancy. In the meantime, we have at our disposal one of Nature's greatest remedies—Rest.

USE OF RADIUM IN THE TREATMENT OF EPITHELIOMA.

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The value of any therapeutic agent is not derived at until some time has elapsed since

its first introduction, and radium has been no exception to this general rule.

The successful use of radium in the treatment of epithelioma depends upon several factors: size, location, type and duration of the growth.

There are two types of epithelioma, the basal-cell and prickle-cell types. The basal-cell type constitutes from 85 to 90 per-cent of cases, and the prickle-cell from 10 to 15 per-cent.

When an epithelioma originates from a scar, an ulcer, a burn, lupus or any other chronic inflammatory lesion, it is more apt to be of the prickle-cell type. When it originates from seborrheic lesions, it is usually of the basal-cell type.

The majority of epithelioma that occur on the lips, tongue, mucus membranes and back of the hands are of the prickle-cell type, while those that occur on the face, chest and neck are usually of the basal-cell type.

Both types of the growths are manifested as a cutaneous or sub-cutaneous nodule. The basal-cell type is more superficial than the prickle-cell type. Basal-cell growths may be verrucous or slightly ulcerated with rolled edges, showing "pearly nodules."

In basal-cell growths there may be a certain amount of spontaneous healing in the center as evidenced by scar formation. In the prickle-cell growths this never occurs. Both types may ulcerate or form a fungoid growth, depending largely upon the resistance of the underlying tissues.

Basal-cell gfowths may be present for many years, cover a very large area without causing any serious trouble, while in the prickle-cell growths this rarely ever is true.

Basal-eell growths never metastasize unless it changes to a prickle-cell type, while prickle-cell growths metastasize in fully 50 per-cent of cases.

The presence of enlargements of the regional glands does not make the diagnosis of metastasis. Glands may enlarge as the result of absorption of inflammatory products.

In the majority of cases, the type of epithelioma can be easily derived at from the history, location, and from the clinical symptoms.

To make a positive, differential diagnosis of a basal-cell growth from a prickle-cell growth, it is often necessary to remove a part of the growth for microscopical study. In removing a section of the growth for microscopical study, it should be removed with actual cautery, and never under any circumstances by incision.

Epithelioma must be differentiated from syphilitic lesions, tuberculosis of the skin, granuloma pyogenicum, depressed scars, blastomycosis, morphea, sub-cutaneous nodules, vegetating dermatitis, pre-cancerous growths, etc.

If the exact cause of cancer were known, a more uniform treatment might result, yet this does not always follow as has been proved by the history of other diseases.

The majority of cases of epithelioma occur after middle life, the larger per-cent of cases are found in men. It is rarely ever found in the dark-skinned races. Fully 75 per-cent of all epitheliomata occur on the face.

The prophylactic treatment of epithelioma is very important. When it is given the care and attention it deserves, there will be less need for radical treatment of cancer, pain and suffering will be lessened and many lives will be prolonged.

All pre-cancerous growths should be removed, such as senile keratosis, moles, warts, nevi, seborrheic patches, etc.

In small epithelioma the treatment is a simple procedure. There are several methods of treatment that will remove the growth. The treatment used should be one that will thoroughly destroy the growth with as little damage to the surrounding tissues as possible.

Excision of the growth would be the best method to follow in all cases were it not for the resulting scar and deformity that often follow such a procedure.

When the growth is located on the nose, lips, ears, forehead, inner or outer canthus, its complete removal by excision is very difficult and often impossible. Then, too the knife opens up the lymphatic channels which often allows the cancer cells to spread to other parts of the body.

In a large per cent of cases, underlying cancer cells extend well beyond the border

of the growth. To remove all the cancer tissue would necessitate the removal of a large amount of healthy tissue which would prevent good cosmetic results.

When a recurrence occurs after excision the growth is more rapid in progress, more prone to metastasize and more malignant. In prickle-cell growths excision is the method of choice, except in early cases. When excision is resorted to, the block operation should be performed. All the growth with its underlying fat, fascia, muscle, lymph vessels and glands should be removed in one piece.

Chemical caustics such as arsenous acid, pastes, zinc chloride, caustic potash and soda, cancer salves, I mention them only to condemn.

In selected cases the proper use of fulguration, thermo-cautery, or actual cautery often gives good results. The use of a cautery in a large growth is very valuable. Growths in which radium is used in the treatment, the use of a cautery will lessen the number of radium treatments and shorten the duration of the disease.

The X-ray has been in general use in the treatment of cancerous growths for several years with good results. In extensive growths it often is the method of choice.

The disadvantage to the general use of the X-rays are: the X-ray tube never delivers exact, uniform quantity of rays, making its dosage difficult; an X-ray burn is always painful and difficult to heal; when it heals it leaves an ugly scar, and owing to location of growth it is often difficult to use.

The therapeutic value of radium was accidentally discovered over a decade ago. It like all other valuable therapeutic agents has been abused. Its practical field of usefulness and limitations are now recognized. To successfully treat skin cancer with radium, it is necessary to be familiar with its action and have a proper conception of the disease to be treated.

Radium offers many advantages over all other methods of treatment. The dosage of radium can be controlled. Its efficiency as a therapeutic agent lies not only in its destruction of the cancer cells by rays emanating it, but also in a strong inflammatory re-action which occurs in a few days after its application.

The extent of this re-action may be minimized by careful screening and dosage. There is always some re-action from an efficient application of radium no matter how careful one may be, or what technic he may employ.

It has been my experience that the degree of the re-action from a radium exposure is of great prognostic significance. The cosmetic results are better after the use of radium than from any other method of treatment. Growths in which it is necessary to produce a deep burn, a radium burn will heal within four to six weeks, leaving a soft white scar, which is not true with an X-ray burn. When desired a radium burn can be prevented by regulating the distance, or by screening.

Radium is not a panacea. When properly used, it is one of the greatest agents known to the medical profession. Its value is not lessened by recognizing its limitations.

Radium has a "selective" re-action, or an "inflammatory" re-action. The extent of this re-action depends upon the quantity of radium used, distance, screening and duration of application. When properly used, it will cause abnormal tissues to undergo retrograde metamorphosis. It seeks out those cells most susceptible to its action. When it is given in sufficient quantity, it destroys cancer cells without destroying the normal cells.

The effect of radium is local. It has no known effect on metastatic lesions on other parts of the body. It must be applied to each area involved. Radium will not kill cancer cells at a greater distance than three centimeters. When the growth is at a greater distance, the cure is only apparent. After radium has been applied to a cancerous growth, it begins to disappear in a few days, and continues to diminish in size from five to six weeks. In superficial growths one maximum dose of radium will produce a permanent cure, while in deeper seated growths several such doses are often necessary.

Radium or X-ray should be used after the excision of all large, cancerous growths. The chances of a recurrence of the growth is greatly lessened after their use.

During the past four years I have treated one hundred fifty-six cases of epithelioma with radium. The growths varied in size from the size of an almond to that of a child's hand. In forty-six per-cent of cases the growths were superficial, envolving the outer layers of the skin. In thirty-eight per-cent of cases the growth involved all the layers of the skin. In sixteen per-cent of cases the growths had penetrated through the skin and into the sub-cutaneous tissues.

The location of the growths were as follows: twenty-two were on the scalp, eighteen were on the forehead and temples, twenty-one were on the nose, twenty-eight were on the cheeks and chin, four were on the upper lip, eleven were on the lower lip, nine were on the ears, eight were on the neck and chest, and three were on the hands.

The duration of the growths varied from three months to twenty years. The ages of the cases varied from twenty-eight to eighty-six years. The quantity of radium used varied from ten to fifty mg. The duration of the exposures varied from two to twenty-four hours. The cases with small, superficial growths received short exposures. The cases with deep-seated and extensive growths received very long exposures. The majority of cases received from four to eight exposures. The amount of screening used was regulated to suit each individual case. In superficial growths gauze and rubber tissues were used. In the deeper seated growths gauze, rubber tissues and brass screens were used.

The results of the treatment were as follows:

In fourteen of the cases the growths were so extensive radium was used as a palliative measure only. Seven cases failed to heal due to lowered vitality. Nine cases died before finishing the treatment from causes other than cancer, too early to know the results of the treatment. In three cases the treatment did not effect the progress of the disease and later the growths were excised. Seventeen of the cases did not return for observation and the results of the treatment are unknown. One hundred of the one hundred fifty-six cases were apparently cured. All of these cases remained under observation for from one to two years after completing the treatment.

Forty-four of the one hundred cured cases, other treatment was used with radium. In six cases radium and X-ray were used. In four cases radium and thermo-eautery were used. Thirty-six cases radium and fulguration were used.

All the cases treated with radium were improved except in three cases. The cases that were not cured were cases with very extensive growths, cases that had been treated by other methods that had failed to cure, and in cases where there was lack of power of vital re-aetion on the part of the tissues.

In the treatment of cancer radium should not be considered a "cure all" and should not be used to the exclusion of other recognized methods of treatment. When it is properly used with other methods of treatment, all cases of cancer will be cured that are curable.

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THE SIGNIFICANCE OF THE STOOLS IN INFANCY.

By M. M. McCord, M. D.,

Rome, Ga.

The examination of the stools in infancy is of very great importance, both microscopic and microscopic, and usually altogether too little attention is paid to it. Every physician recognizes the great disadvantage to which he is placed ordinarily in trying to make a diagnosis of some of our intestinal disturbances of early childhood, therefore in such conditions it is a perfectly reasonable and rational thing to do to examine the stools carefully and get as much information as possible from this source. While stool examination is more important possibly than any other part of a routine, yet we must not lose sight of the fact that the weight curve in infancy is also a very essential matter to be watched. Stool examination is the most important guide we have, however, and if one becomes sufficiently accustomed to it to be expert at it, a great deal of valuable

information can be obtained as to what is going on in the intestinal canal by the examination of the discharges.

The reaction of the stools is sometimes of considerable importance. I usually carry a small book of litmus paper in my pocket when making a call to a baby, so that I may possibly have an opportunity in the home to apply a simple test to the stool and know at once whether I am dealing with an acid or an alkaline condition.

In the infant's intestines two processes are constantly at work against and counterbalancing each other: decomposition of proteins with alkaline end products and decomposition of fats and carbohydrates with acid end products. Under normal conditions these two processes just about balance each other, so that a normal stool is either slightly acid, neutral, or slightly alkaline in reaction. If the intestinal contents are either strongly acid or too strongly alkaline trouble usually results, due to the irritant action in the intestine of the acid or alkaline end products.

Some of the various types of abnormal stools seen are as follows:

Fat Indigestion.

1. "The Scrambled egg" stool, acid smelling, loose and with many soft, white fat curds scattered through it. With stools of this type there is also probably some sugar indigestion in addition to the fat, inasmuch as any condition which caused a pronounced fat indigestion will in same cases affect the digestion and absorption of sugar in addition to the fat.

2. "The Soap Stool"—Is usually a hard light colored, rather dry, and crumbly stool, sometimes almost white. Typical soap stools are made up largely of insoluble calcium and magnesium soaps. This condition usually results from a poor absorption of the calcium and magnesium salts, so that there is an excess of these soap forming alkalies in the intestine, or it may be produced by giving large quantities of these salts in milk modifications, whereby an excess of these alkalies are brought in contact with the fats, and form insoluble soaps.

3. "The Oily Stool"—Sometimes in cases of fat indigestion the stool may be a light yellowish brown color and very oily. These stools are not so common as the scrambled egg and soap stools.

4. Some stools which contain an excess of fat sufficiently to start trouble may look perfectly normal microscopically, but when examined under the microscope will be seen to contain a large excess of fat. These stools are usually of a salve like consistency.

Sugar Indigestion—The stools in sugar indigestion are always strongly acid in reaction. In many cases it is not even necessary to use litmus paper to demonstrate to one's satisfaction. The stools are usually green, strongly acid smelling, and may contain fat curds, due to the fact that the food has been hurried through the intestine so fast that the fat has not had time to be absorbed. The stools of a mild sugar indigestion may sometime closely resemble the scrambled egg stool of fat indigestion.

Protein Indigestion—The stools of protein indigestion may be of two types. The first type is usually yellow or light brown and contains casein curds, which are smooth, tough, white, bean-shaped masses of coagulated casein. The second type is brown, loose, foul, strongly alkaline in reaction and may be frothy or bubbly. This latter type indicates that there is considerable decomposition giong on in the intestine.

Starch Indigestion—The stools of starch indigestion are usually loose, foul smelling, rarely smooth or homogeneous, are brown in color and are likely to contain small brown mucilaginous masses of partly digested starch, together with a good many cellulose remains, such as seeds, pulp of fruit, etc. Occasionally the stools in starch indigestion may be dry or crumbly or more rarely green and watery.

Fermentative Diarrhoea—The stools of fermentative diarrhoea may be the result of either fat, sugar, protein, or starch fermentation, and usually follow one of the attacks of indigestion just mentioned. The stools in this condition in addition to the stools in the different forms of indigestion may contain mucus in varying amounts. Carbohydrate fermentative diarrhoea is the most common form and is usually called "Summer Diarrhoea." Heat, irregular feeding, over-

feeding and too much sugar are the most active factors in establishing a predisposition. The direct cause of the condition is infected water, milk, etc. In fermentative diarrhoea the bacteria do not attack the mucous membrane. It is simply the food in the intestine which is attacked and decomposed. With the formation of acid end products or alkaline end product according to the food which enters into decomposition. In severe cases much acetic and butyric acid is formed in the intestine. It is partly due to the formation of this acid from decomposition that the stools show such a severe irritation. In these severer cases where the stools are very frequent and the child is washed out acidosis is likely to result, partly from the greatly increased loss of alkali in the diarrhoeal stools and partly due to the usually diminished excretion of the kidneys, and the abnormal breaking down of the body fat, if the baby is not taking much milk.

Infectious Diarrhoea.

The stools in this condition after the first day, show very little fecal matter present. The patient may have from 12 to 24 small stools a day, mostly composed of mucus, pus blood and slime and the passages associated with more or less teuesmus. In this condition the bacteria have actually invaded the walls of the intestine. The condition is usually found in the large intestine and lower part of the small intestine and is what we commonly call illeo-colitis. The stools in this condition may be examined by the simple fermentation test to ascertain whether or not one is dealing with the gas bacillus, inasmuch as this latter type of infection calls for an entirely different diet from the infection caused by the dysentery and streptococcus organisms.

Pyloric Stenosis—In this condition the stools are very small and constipated, closely resembling the appearance of stools in starvation. The smallness of the stools and the absence of blood, mucus, etc., together with other symptoms will naturally help in establishing a diagnosis of pyloric stenosis.

Intussusception—In this condition the stools consist of blood, mucus and fecal material. After a few stools have been passed they no longer show fecal material, but only blood and mucus, and are small in size. The stools very markedly resemble infectious diarrhoea, therefore it will be necessary to associate other symptoms than the stools in arriving at a diagnosis.

Constipation—One cause of constipation in infancy is the result of the child not taking enough food to make a sufficient volume in the colon, which is relatively longer in an infant than in an adult. If an infant is ot havig enough of stools or if they are very con stipated one should investigate and learn if the child is getting enough, and the right kind of food, before administering drugs for this condition. Casein curds and heavy soap mixtures formed in the intestinal canal will also give constipated stools. A careful macroscopic and microscopic examination should be made of the stools. When the trouble is located it can usually be adjusted by a change in the milk modifications, or should it be a nursing baby it can very often be relieved by regulating the habits and food of the mother.

Any one treating an infant should remember that in the majority of cases stool examination is the most important guide one has in arriving at the baby's real condition, for the stools give a correct index to what is going on in the gastro-intestinal tract. If I should be given the choice of seeing the baby or seeing the stool as a means of arriving at a diagnosis, I would always prefer to see the stool when there is a nutritional disturbance. Just so long as we pretend to treat babies and do not examine the stools, we may content ourselves with being called "guessers" by the public. I never lose an opportunity to examine a stool when called to see a baby, for the more stools one sees the better is he prepared to interpret the conditions in the intestinal canal by the examination of the stools. While spending last summer at Harvard I learned that as a routine, every baby without exception, which entered the infant's ? ? ? ? ? ? or the childrens's hospitals in Boston has its stools examined macroscopically, microscopically and microchemically. All of these examinations are simple and should be made as a routine by every medical man who treats any intestinal disease of infancy. As a result many conditions which otherwise would be obscure will be cleared up to a great extent.

ETIOLOGY OF THROMBO ANGIITIS OBLITERANS.

By Samuel J. Sinkoe, M. D., Atlanta, Ga.

Among the many diseases of doubtful etiology which has been occupying the attention of the medical profession may be mentioned the interesting clinical condition known as Thrombo Angiitis Obliterans, formerly called "Obliterative Endarteritis" which has within recent years become a distinct pathological and clinical entity. The condition is described as an occlusive thrombosis of the deep arteries and veins beginning in the distal arteries of the limbs and extending upwards to involve the large trunks of the foot and leg. (Buerger).

Mention will only be made of the etiological factors bearing upon the condition, the pathology, symptoms, and treatment having been discussed in previous articles.

Among the predisposing causes may be mentioned:—

(1) Nationality. Though the majority of the cases met with occurred in Russian, Polish and Galician Jews, there were typical cases reported among the Swedes by Oschner and among the Japanese by Koga.

(2) Sex. While almost all cases observed were in men, Brooks reported a typical case in an Irish-American woman.

(3) Age. The most frequent age is between 25 and 40 years, though many cases are seen in elderly people. The latter can be explained by the fact that the disease usually extends over a period of many years, beginning in early middle life and lasting at time for 10, 15, or more years.

(4) Occupation. That occupation is not an important factor in the causation of this disease is shown by the variety of the patients' occupations. The great predominance of tailors met with is due to the large number of needle workers among the Hebrew population.

(5) Exposure. Many patients give a history of frost-bite either recently or many years prior to the appearance of symptoms; some give a repeated history of frost-bite. While many investigators are inclined to ascribe the disease entirely to the disturbance of circulation incident to frost-bite, it seems to me that "cold" acts more as a predisposing factor by lowering the resistance in the limb.

(6) Trauma. In going over the histories of these patients, one does not fail to be impressed by the frequency with which patients date back the beginning of their symptoms to a local injury as produced by paring a corn or callus, cutting an ingrown toe-nail, or other minor surgical operations upon the foot. In reality this trauma only hastened the pathological changes or caused the disease to manifest itself by the formation of ulcers or wounds which have a tendency to run a very chronic course.

The first to describe cases of a similar nature was Jasche in 1865 and Burrow in 1867, but Friedlander in 1876 discovered the lesion and recognized it as a pathological entity. These observers spoke of the condition as an obliterative endarteritis because of proliferative changes in the intima of the arteries which resulted in final occlusion. In 1897, Wedensky described similar cases occurring in Russians, in men between the ages of 19 and 50, and he also referred to them as Endarteritis obliterans. Various observers and writers since that time have described similar cases under the names of endarteritis obliterans, arterio-sclerotic gangrene, Juvenile or presenile gangrene until in 1908, Buerger after a careful study of a number of amputated limbs described in detail the pathology of this disease and named it thrombo Angiitis obliterans recognizing it as a distinct pathological and clinical entity.

The earlier observers such as Friedlander, Sternberg and others ascribed the changes in the vessels to injury and prolonged and repeated exposure to "cold," either in normal individuals or in those with a weakened circulation but in the light of more recent observations, these views do not explain the pathological findings nor do they satisfactorily explain why the disease is almost confined to a certain class of people, of certain age, sex, nationality, etc. Others such as Wedensky believed that there is an underlying neuritis, and Brooks also believes that neuritis is an important factor in this

disease. It is clear to understand however that the nerve changes are very likely due to their involvement, secondary to the periarteritis which is almost always a constant factor, and to the disturbed circulation and nutrition as a result of the arterial obliteration.

Some observers seem to lay much stress upon the fact that the disease occurs very frequently in neurotic individuals and claim that this may have some bearing upon the etiology but observation does not seem to bear it out. The extreme nervousness and sensitiveness observed in many individuals in my mind is really more the result of their intolerable suffering than the cause of it. There is nothing in the histories of these individuals to show any special neurotic tendencies and the fact that the female sex which is more inclined to be neurotic is almost exempt from this disease speaks strongly against it.

A lesion of the spinal cord as a possible cause of the vascular and trophic changes has been mentioned time and again but it has never been demonstrated either by clinical corroberation or by postmortem findings.

At various times and even now because of certain pathological changes (periarteritis) and a few positive Wasserman re-actions it has been suggested that there may be a Syphilitic basis for this disease but my observations as well as others have shown that Syphilis plays no part in the production of this disease. The percentage of positive histories of luetic infections and positive Wasserman re-actions is so small that Syphilis as an etiological factor can be absolutely excluded Buerger and Kaliski found the Wasserman re-actions as well as the Naguchi modifications negative without exception.

The fact that the majority of the victims of this disease are addicted to excessive cigarette smoking has led many clinicians to advance the theory that the occlusion of the vessels is due to the prolonged and constant action of nicotine upon the ganglia of the vasomotor nerves and the arterioles. This would also in their opinion explain the prevalence of this disease among males but this assumption does not explain the fact that there are many patients who are total abstainers from tobacco in any form and many more who smoke very moderately. On the other hand why do we not see more cases of this disease when one takes into consideration the large number of people who use tobacco to excess?

Rye bread as an article of diet has been advanced as a possible factor in the production of this disease, its supporters basing their arguments upon the fact that the people in whom it is most often seen are constant consumers of rye bread. More careful analysis however makes it quite evident that there can hardly be any relationship between the two nor does it explain why only the male sex is affected, why only a few in a race largely fed on rye bread and why other nationalities are not affected.

Lately numerous diseases, the etiology of which was unknown, were proved to be caused by a disturbance in the function of one or more of the glands of internal secretion. This has led certain writers to believe that the disease might also be due to a similar disturbance. The thyroid and suparenals were mentioned because of their close relationship to the circulatory system. The genital glands are also mentioned in this respect some thinking that the escape of the female sex from this disease may be due to some antagonistic or protective substance produced by the ovaries. As yet there is nothing in the clinical or pathological findings to substantiate this theory and the results obtained by the administration of the various glandular extracts are not satisfactory enough to attach any significance to them.

Mayesima advanced the theory that the pathological changes are due to alterations in the blood itself such as increased viscosity, and that any means tending to reduce this viscosity would check the progress and alleviate the symptoms of this condition. Experiments along this line were undertaken by Koga and Meyer and others but the results were not uniform or encouraging. The injection of anticoagulating substances was also tried but sufficient trial has not been

given this procedure as yet to warrant any conclusions.

Much credit is due Buerger who has worked extensively upon the pathology of this disease and who came to the conclusion that there must be some specific microbial agent at work in the production of the lesions because of a constant and typical histological picture encountered in the examination of the specimens. This would appear to me to be the most logical deduction but it is my belief that a combination of infective microorganisms may produce this inflammatory process particularly in individuals with a weakened circulation and who are under a constant static strain.

Goodman and Bernstein have done some serological work on a series of these cases with the object of demonstrating the relationship of the causative factor of Typhus Fever to that of Thrombo Angiitis Obliterans. They base their theory upon the fact that a number of these patients give a history of Typhus fever and come from countries e. g. Austria, Russia, Bulgaria, Turkey etc. where Typhus is endemic and also the frequency of gangrene complications in Typhus Fever. This theory interesting and promising as it may be is still under investigation and more convincing proof will be necessary to establish more than a coincident relationship between the two affections.

Recently an interesting theory based upon extensive clinical observations and laboratory exeminations of patients suffering from this disease, was advanced by Willey Meyer of New York basing his opinion upon a chemical examination of the blood. He showed that—

(1) There was no retention of waste nitrogenous constituents.

(2) There was no marked decrease in the alkaline reserve of the blood as demonstrated by the carbon dioxide combining power of the blood plasma (Van Slyke.)

(3) In all the cases thus far studied the ingestion of 100 grams of glucose after a brief fasting period had produced hyperglycemia. The fact that this disease is confined almost entirely to Russian Jews, a race that shows a high percentage of diabetics, and with the interesting phenomenon of hyperglycemia pointed out by Meyer would cause one to shift his idea almost entirely to a metabolic disturbance in the blood as a cause of the clinical features encountered. I agree with Buerger who states that all studies which would tend to throw light upon the etiology of this disease should be welcomed but just how much light Meyer had succeeded in throwing upon it by his particular investigation could not be determined at the present time. Buerger still clings to his assertion that this condition is a disease of the blood vessels rather than the blood and that it is a specific disease accompanied by specific changes in the vessels and that pulsation is never restored in a vessel occluded by this affection. He also makes the assertion in speaking of glycophilia as an etiological factor that if this was true, many diabetics would give a clinical picture of Thrombo Angiitis Obliterans, and in addition specific pathological changes in the thrombosed vessels of diabetics are never encountered.

It is evident from what has been said that these studies have done a great deal toward bringing us to a better understanding of this condition but further studies particularly along the infection theory as advanced by Buerger should be undertaken. We should not only strive to relieve the symptoms of these unfortunate individuals but should endeavor to find out and remove the cause of this disease. When this is accomplished, we will be able to really apply a real and specific therapeutic agent which will bring welcomed relief to thousands of these sufferers.

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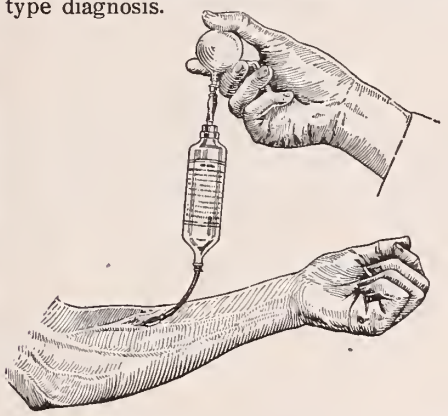
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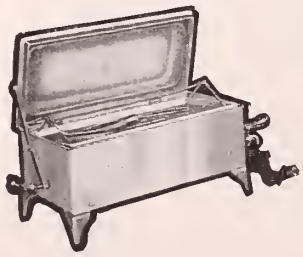
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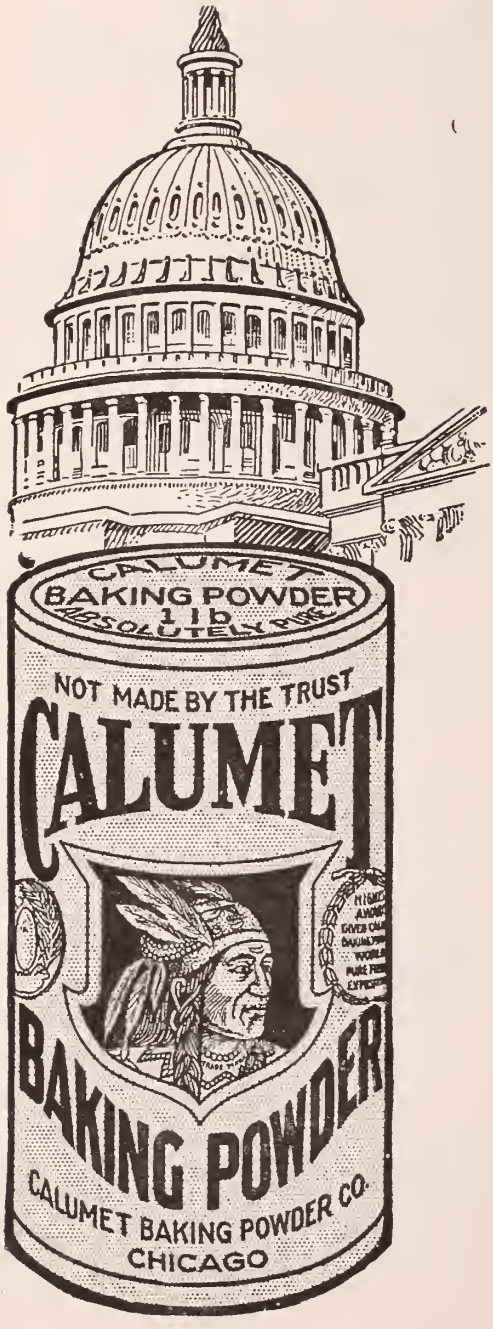
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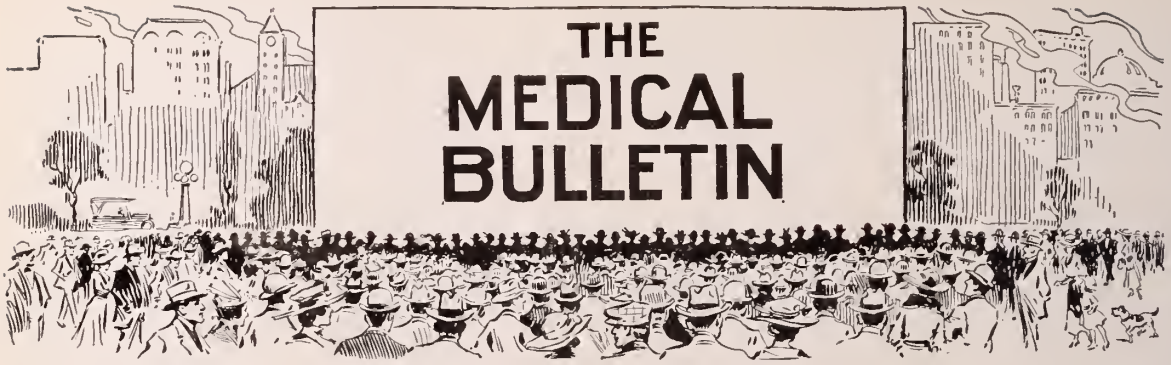
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THE JOURNAL
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ORIGINAL ARTICLES

ESSENTIAL FACTORS IN THE PUBLIC DEFENSE AGAINST VENEREAL DISEASE.

R. L. DeSaussure, M. D., Rome.

The defense against venereal disease has as many angles as a diamond has facets. But in the main there are two classes of people to be dealt with,—the unexposed and the exposed. The unexposed must be kept in that class, as many as possible, and any work leading to this end must involve a discussion of prostitution,—even though all sanitarians who have worked along this line recognize the necessity of divorcing the physical element from the moral element.

For five thousand years the prostitute has been with us and no doubt during all that time holy men have thundered against her, but she still exists. The sanitarian is now about to have his day. The preachers have failed, and the initiative passes to the doctor. Whether he can succeed working on physical grounds where his brethren have failed working on religious grounds remains to be seen. But the fact is proven that morality accomplished but little in the fight with lust and now physical fitness enters the list, while fear of consequences on earth takes the place of fear of consequences hereafter as shield bearer.

The best way to avoid infectious disease is to shun the places where it is known to be. Prostitutes, in the great majority of cases are known to be diseased, therefore must our young men be taught to shun prostitutes, and in that class I include all loose women. To my mind the greatest factor for the accomplishment of this is education. I truly believe that the false modesty that keeps a father from educating his son and a mother from educating her daughter on matters of sex is responsible for wholesale misery and suffering.

And here the insidious winding of the roots of this tree of evil are to be seen. Let us imagine an island with a settlement of healthy people in juxtaposition to a colony of lepers. Is it conceivable that down to the smallest toddler they would know the penalty of entering the forbidden territory? Would they not know the history of leprosy, is disfignrment, dreariness and living death? And when a newcomer arrived would not a thousand tongues warn him against crossing the forbidden line? But venereal disease has for his partner, lust, one of the strongest and basest passions of the human heart. A good angel gone wrong, who works under cover of darkness while men and women with pious hypocrisy proscribe mention of his handiwork; and the youth of our country learn to their bitter cost. Even as a fire cannot burn without oxygen so the campaign against venereal disease cannot thrive without education. Education that will strip improper sexual relations of their alluring mystery and clothe them in their sordid garb of misery. Education as to the results of this twin scourge which takes a more terrible toll from the flower of the race than leprosy ever dreamed of.

Another factor is to be considered here. The desire to procreate is strong in the human heart. This desire attains its greatest expansion at the time of maturity and that is the logical time for a person to marry. But under the present economic situation it is a difficult matter for a young man to make a living for one, and often impossible to earn enough for two so marriage perforce is postponed. Undoubtedly early marriages would go far to reduce the venereal disease problem but unless we learn to live closer to nature, that is a consummation to be hoped for rather than achieved.

So for the unexposed. Education as to the dire results of unchastity, and the health

fulness of continence; and marriage as early as possible are the obvious methods to be pursued.

The exposed are also divisible into two classes; those that have contracted the disease and those that have not. The latter class demand a brief consideration. To my mind there is one lack in the provision for venereal disease clinics as I have known them and that is the lack of prophylactic stations. The army has prophylactic stations but the clinics of the Public Health Service, with which I have been associated, confined their efforts to treatment of the disease. I do not mean that had any one called at the clinic for a prophylactic treatment it would not have been received, but no advertising of prophylactic treatment was offered to the public, and, so far as I know, no one called. If prophylaxis was considered good medicine for the army I do not see why it should not have held good for the civilian. As to the claim that it is a tacit approval of immortality I do not believe that is a good excuse. There will probably always be a percentage of immorality, and the campaign is now directed against venereal disease; campaigns against immorality having accomplished little in civilian zones.

I believe that a nation wide inauguration of prophylatic stations, coupled with education as to the results of venereal disease would lower the venereal disease rate of the nation as quickly as any other practicable method known.

And we come to that great army of men who have been exposed and have contracted venereal disease, and it is with that body we mainly have to deal in the campaign against venereal disease. This campaign would have for its essential factors the same ideas as those incorporated in a campaign for the nation wide selling of any article. The basic factors in a selling campaign are these:

1. Wide publicity
2. Efficient factories
3. Creation of a demand for the article manufactured by analogy in the suppression of venereal disease we may assume the primary factors to be:

1. Advertising of the clinics
2. Efficient clinics and detention homes
3. The moulding of public sentiment

1. **Advertising of the clinics.**

This should be done from a purely medical standpoint. Morals should not be allowed to enter. By newspaper advertising, addresses to young men, by posters in the toilets, and in the same manner that quack physicians and patent nostrums are brought to the attention of the afflicted should the clinics be advertised. Newspaper articles should be written by tactful, educated physicians in which the specific diseases, gonorrhoea and syphilis, should be discussed under their own names rather than under the blanket title of "Venereal disease." The pulpit should be enlisted in the fight against venereal disease, selected motion pictures might be shown, and generally the light of public opinion let in.

2. **Efficient clinics and detention homes.**

Having advertised the work of repair then efficient clinics and skilled physicians and nurses are needed. The main clinic should be centrally located and the hours should be such that the working man and woman can call for treatment with the minimum loss of time.

In addition to the central clinic, clinics should be installed in jails, and in detention homes. At the jails all prisoners arrested on vagrancy charges involving immorality should be examined by the jail physician, and if found to be infected should be quarantined and held for treatment regardless of the length of their sentence, nor should they be let out on bail until they have been rendered non-infectious. In fact the finding of the disease in these patients should automatically quarantine them under suspended sentence, and this quarantine should hold good until these prisoners could be certified as free from infection when the quarantine should be lifted and the time served under quarantine might be applied on their sentence; but even though the necessary time for quarantine exceeds their sentence they should not be released in an infectious state. This necessitates of course the installation of suitable clinic rooms in the jail, and the attendance of physicians skilled in venereal disease, two or three times a week. When

there is more than one jail one of two courses must be pursued: either each jail must have its clinic, or the clinic must be held at the central jail, patients being taken there under guard.

Detention homes for young women should be maintained. At these homes there should be facilities for teaching these young women some useful trade and in this important detail many mistakes have been made in the past. To make a detention home simply a place of detention where girls have nothing to do but scheme to break quarantine is not a happy solution of the matter. I have been director in one such institution in which there were frequent escapes and attempts to escape, and much backbiting and recrimination due in the main to the fact that the girls had nothing to occupy their time. It seems imperative to me that in a dention home a suitable amount of manual labor with a reasonable time for recreation should be supplied for those in good general physical condition. I believe that in detention homes as they are now there is too much preaching and too little teaching. Most important of all at the detention homes is the matron having absolute charge of her wards. Her power is supreme and there is no appeal from her commands. While I do not believe in preaching morality to these unfortunate inmates, certainly great good can be accomplished by force of example; and a broadminded, cheerful matron who does not look upon her charges as beyond the pale is a beneficent influence that reacts to their physical welfare. Unfortunately such women are hard to find. The commonest appointees to such a position, being narrowminded police-women whose reputation is not of the fairest, and who are inclined to be terribly strict on their charges. Such a one gives the impression that the young women under her charge are doomed to everlasting torment and should not be allowed to live in the same city with people who have not sinned, resulting in a mental attitude in the patient which is very slow to respond to any kind of treatment. I believe that matrons of these institutions should be selected with the greatest care and that a sunny, cheerful disposition coupled with broadmindedness and some knowledge of the world should be a "sine qua non" in candidates for this appointment.

3. **The moulding of public sentiment.**

The moulding of public sentiment is the final test by which the propaganda for the suppression of venereal disease will stand or fall. We are truly a democratic nation and the will of the majority prevails. If the majority of the people of our country turns thumb down to venereal disease a great force will be liberated which in time will bring the plague down to its irreducible minimum. As a matter of fact there is no such thing at present. Women ignore these matters while men believe that a certain sowing of wild oats is inevitable, and perhaps beneficial. It seems to me that were they aware of that terrible harvest reaped from the sowing of such seed much would be accomplished in changing this sentiment. It therefore behooves the sanitarion to inculcate this knowledge. It sometimes slips our memory that facts which are common knowledge to the physician are often as sealed books to the layman. ould the vast body of books to the layman. Could the vast body of our citizenry be taken through one of our hospitals for the treatment of venereal disease, and shown the terrible penalty resulting from the sowing of wild oats I believe that fear would do as much to lessen venereal diseases in one generation as moral teaching has done in six. At least the youth of our land would no longer pursue the perilous path of pleasure with their eyes shut. The method in which this might be accomplished are threefold.

1. By lectures
2. By written articles
3. By the passage of laws

1. **By lectures.**

In the giving of lectures as in almost all other aspects of this intensely human problem the personality of the lecturer will be the guage of his success. The man educated, tactful and forceful must be chosen. One imbued with the truth of his subject and endowed with sufficient fire and eloquence to mould public sentiment; because the pioneer in this work of discussing venereal disease openly must be a leader, and must im-

press his audience with the sincerity of his purpose.

2. **By written articles.**

Articles should be written both in newspapers and in magazines. It has seemed a good practice in this community to submit the articles before publication to the Ministerial Association and get their written approval which is printed at the head of the article, thus insuring a wider publicity than would otherwise be had. While the written article perhaps takes the secondary place as compared with spoken word, it is nevertheless of great importance and an effort to have some first class author such as Herbert Quick write a series of articles on venereal disease in such a publication as the Saturday Evening Post would, if successful, carry this knowledge to a large number of readers, and go far towards making the discussion of venereal disease from a medical standpoint a fashionable subject.

3. **By the passage of laws.**

While this is a very important step in the moulding of public sentiment, as there are some people who may be reached from this angle more readily than any other ,it is a question in my mind whether this particular phase in the matter has not been somewhat overdone of late. There is a federal law making a traveller afflicted with venereal disease subject to quarantine should be attempt to cross a state boundry line. The law passed in South Carolina gave the health officer authority to cast into jail any woman whom he had a reasonable suspicion of being afflicted with a venereal disease and to hold her there until she consented to examination. And the venereal disease law of Georgia is also drastic. It is questionable in my mind whether these laws would stand if attacked in the courts. While realizing the necessity of laws I am inclined to believe the pendulum has swung too far in some instances. Certainly legislation must be appealed to but I think it would be a matter of gradual growth as the minds of the people become prepared for it. Law is no more, or should be no more, than crystalized public sentiment and I do not believe if it came to the test that some of these laws should be sustained.

Undoubtedly the greatest need at this time for the success of the campaign against venereal disease is education and more education and in a campaign against venereal disease as in any other campaign it pays to advertise.

WHAT WE HAVE DONE IN GEORGIA TO AID IN THE CONTROL OF VENEREAL DISEASES.

Joseph P. Bowdoin, M. D., U. S. P. H. S.,

Atlanta.

When the draft board of our selective service brought from darkness to light the fact that one-third of the young manhood of our country was physically unfit for military service, and therefore, unfit for the full capacity of achievement in other lines of civic endeavor, our thinking men began to wake up. We are not able to say how much of this disability was due to venereal disease, (4 per cent.), primary or inherited, but we do know that from actual figures on the first million men who did pass the examination of the draft boards and finally were accepted in the army, Georgia soldiers had 5.60 per cent. venereal infection, placing us fifth from the bottom of all the states. We also know that five-sixths per cent of this infection was brought into the army from the home town or nearby country, only 1-6th having developed after induction into the service.

It is estimated that we have over 300,000 infected in our state.

The physicians of our country have of necessity, owing to the false idea of modesty and prudery of the people, been deaf and and blind.

In our campaign for the control of venereal diseases, we decided that education of the masses of the young men in particular of the greatest importance. Second: The offering of free Wassermann and Laboratory diagnosis to our physicians, with free arsphenamine to those not able to pay for it. Reporting by physicians to enable us to place infections and to keep tract of the itinerant carrier.

Third: Organization of clinics and aid in

conducting them that free treatment could be given in the more populous centers especially near cantonment zones where the population was dense.

Fourth: Repressive measures. The Red Light District house closed as a war measure. They should be kept closed forever.

Fifth: We have been endeavoring to have the necessary laws enacted by the state and cities to surpress prostitution and control the sources of infection.

In our educational campaign we have address over 80,000 people. In numbers of cases we have had both ladies and gentlemen. The question was frankly discussed and the diseases were called by name. We have shown the Government moving picture "Fit to Fight" to men only and women only in a number of the larger towns. The total seeing this picture amounted to 24,-825.

We have mailed out on request and distributed in other ways 75,000 pamphlets on the venereal and sex question. We have written personal letters to many women organizations and to all druggists, physicians, judges, solicitors, Justices of Peace and many others. We are having placards put up in the railroad trains and station toilets in the state. We are using the Western Newspaper Union plate matter and have a circulation in the State of 143,858. This gives us over 600,000 readers. This educational work will continue until the appropriation is withdrawn.

We opened at the Georgia State Board of Health Laboratory and put on a full time man to do nothing but make Wassermann tests for syphilis. This department has grown by leaps and bounds and is now doing a great amount of work. It is maintained for your benefit and is at your disposal. We furnish you free keidel tubes for taking specimens besides the laboratory is always ready to aid you in the diagnosis of gonorrhoea by examining smears for you. Through the ten clinics we have in the state we have been distributing free arsphenamine, and have now about completed a plan for placing this remedy in every county in the state,

The Government does not furnish any other remedy or pay any other bills. The physicians of the state are earnestly and urgently requested to report their cases of Venereal Diseases. Without these reports we cannot have an idea how much infection we have, or which is most important to our State, the ratio between the whites and blacks. Georgia cannot afford to remain quiet or content while she is placed fifth from the bottom of all the states. Without reports we cannot determine the source of the infections. In making reports you are not to give the name of your patient unless you deem it necessary. You are to treat your patient eithical. The government does not care for this information unless it is necessary for quarantine.

We do want the essential truths, to wit; Age, color, sex, conjugal relation, place where disease was contracted. If you wish to do a real work for your state, if you wish to put her in the right light before the world, you will report your cases and aid the State Board of Health in every way possible in the eradication of the venereal menace. Enlist under this flag, fight the battles of the innocent womanhood and the unborn generation. Every child has a right to be born healthy.

The Government was of the opinion that the work of treating the infections of our state could best be done through free clinics, and to carry out this plan we have organized and today have active clinics work in Atlanta, Augusta, Athens, Savannah, Macon, Brunswick and Columbus. It was originally intended to have clinics at Albany, Americus, Dublin, Rome and Gainesville. After studying the question from all its angles, especially the wide areas of our state, that would be without clinics, and from the experience we had in the towns where clinics were running, we requested Assistant Surgeon General Pierce to allow us to organize the County Unit Plan for the State, distributing the arsphenamine through the physician of the draft board to the physicians in the county, very similar to the way diphtheria antitoxin is now handled. This plan has just about been perfected, and we will in the next few weeks have the entire state covered. We have 1500 doses ready for mailing with all the necessary blanks and

records. We sincerely trust that this will meet the hearty approval of all the doctors of our state, and that they will take advantage of this opportunity.

The physician of the draft board will also supply free of charge Keidel tubes and slides. The State Board of Health will make the examinations without expense, and as quickly as is consistant with accuracy.

The office of the Venereal Disease Control will be glad to have you ask questions, and so far as we can, will advise with the physicians about the rules and regulations that have been enacted.

The clinics of our state have been doing a great deal of work.

They have had, and have now under treatment a total of 13,987 cases. The physicians of the country districts have reported 2,888, giving us a total of 16,875 cases.

The Venereal Diseases from actual reports received are far in excess of all the combined infectious and contagious dieases reported by physicians with the exception of influenza, which was not considered in the above figures. These reports cover a period of three months.

We have had under arrest and detained for tratement 687, only four places reporting. We have approximately in our insane asylum 1,047 patients with positive Wassermann, they are costing the tax-payers $203,941.45 per year. At the academy for the Blind we have 37 children who are there from babies' sore eyes, or born blind. The cost of maintenance for each pupil is $300.00 per year, and the course covers 10 years, making $11,000.00 per year, or $111.000.00 to complete the course. The institutional cases have been included in the figures given above.

The institutional cases are never diagnosed as Venereal unless the laboratory gives positive report. It is therefore, quite likely that a large number of the inmates at Milledgeville should be added to the above.

All of the red-light districts have been closed and all the houses of prostitution have been closely watched by the law enforcement department. This activity should not be allowed to cease because the war is over, but on the other hand, the Campaign must be more vigorously pushed by the citizens of the several communities. The Federal Government should not be expected to be as active as it has been, and you will have to put forth your best efforts to protect the young men and of necessity, therefore, the young girls of our country; your daughter and mine. The future welfare of our country rests in the faithful service the physcions put into this work. Every female prostitute is some body's daughter, somebody's child, some body's loved one, and is a source of infection for some body's boy.

As soon as the call came to us from the Surgeon General last summer, giving us the first insight as to the seriousness of our Venereal Infection, The State Board of Health went to work to get the necessary laws enacted by the Legislature. We met with the most cordial and hearty support of our law makers. They were anxious to do their bit, and did it. Just as soon as the routine of the House and Senate could get the bills through they were promptly signed by Governor Dorsey, and are now the law of our state. This law gives the State Board of Health the right to pass rules and regulations necessary to carry out the laws. This has all been done. A number of cases have been tried under the habeas corpus, and all have been unsuccessful. One case has been taken to the Supreme Court, and so far judgment has not been handed down. We are not uneasy about the outcome of this case. We are under lasting obligations to the law makers and Governor Dorsey for their loyal support in our fight against Venereal Diseases.

The State is yet in great need of other measures, perhaps the greatest is a home for the treatment, care and restoring to usefulness the women that have been inmates of the red light district, and those unfortunate, feeble minded girls who possess no will of their own, and who have been led on downward until of necessity they sell their bodies for food and raiment. They should have your sympathy, and that of all good people. They are outcasts, without hope, stranded distressed on the sea of life. They are drifting to an awful death from

Venereal disease. They are practically all infected.

However, the greatest need and the most urgent for legislation is a law that offers co-operation with the Federal Government. The work that has been done in the past year has all been financed by the U. S. Public Health Service. Georgia was alloted $28,368.50 as her part of the Chamberlain-Kahn Act. This fund will be exhausted June 30th, or if any remains on hand at that time, it will be returned to the U. S. Treasury. The Federal Government will be glad to meet the State dollar for dollar and continue the work. New legislation will be required, and to you who are better informed as to the true conditions of the prevalence of Venereal Diseases do we look for the instigation of a movement to popularize this work until the members of the coming Georgia House and Senate will know the needs and realize the enormity of the suffering and devastation of human life and happiness caused by these diseases, that so knowing from you the truth, they will gladly respond and espouse the cause, and quickly pass the laws necessary to avoid any lapse in the work.

I would that I had the power, the words and eloquence to preach a sermon from every hill top of North Georgia, from every farm and in every home of middle and South Georgia from the text: "Ye shall know the truth, and the truth shall make you free," John VII-XXXII.

The plain unvarnished truth would bring the people to a realization of the conditions as they exist and the necessary remedies would be applied.

ECONOMIC VALUE OF EARLY DIAGNOSIS AND TREATMENT IN HAND INFECTIONS.

By R. H. Wicker, M. D.,

Rome, Ga.

From a careful study of many cases of finger and hand infections and their complications during the last three years, I am convinced that a radical form of treatment of all hand infections is the most economic plan that can be adopted.

The initial cost of such treatment will exceed a temporising effort, such as opening an infection in the office and allowing the patient to go about his duties; but thelength of treatment and the complications developing from the latter method will far exceed that which follows the treatment of all infections as serious from the inception.

In dealing with the subject from an economic view-point, it is not the actual cost of medical services, but the actual economy to the patient and to the concern for which he works. The most perfect line of treatment must give the shortest disability with a minimum amount of suffering and the fewest hardships to those dependant on the patient. It must prevent permanent deformities such as loss of function or loss of fingers, it must reduce the death rate to a minimum. Most all infections are chiefly the result of minor accidents, such as the following; pin pricks, splinters, abrasions from baskets, boxes, bins, lacerations from knives, scissors and other sharp instruments, bruises and contusions, nail wounds, scratches from tin and wire. The greater number of these infections are very slight and require very little treatment and causing little loss of time from work. Never-the-less there is a certain disability connected with them as an employe with bandaged fingers or hand has less working capacity than an unhampered employe, therefore reduction in the total number of infections means a marked saving in this form of disability. It has been further reduced by careful attention to the simplest, yet the most adequate dressing which can be applied.

A certain number of infections however become serious and require treatment either at home or at a Hospital and cause an actual loss of time from work.

One of two places of treatment has been adopted in any case of hand infection. Ambulatory or Hospital. The Ambulatory treatment consisted in opening the infected hand at the office with instructions for using hot packs and to report for subsequent dressing etc., when a hand infection shows signs of becoming serious or threatened complica-

tions are apparent we should insist on Hospital treatment, then the infection could be opened under a general anesthetic and the patient kept quiet in bed and with hot moist dressing intelligently applied until the acuteness of the condition has subsided.

The use of a general anesthetic is one of the most valuable features of the Hospital treatment when it is necessary to operate on infected hands. The work of the operator is much more through, the incision into the infected parts are larger and better drainage is established.

Wide open, radical treatment of these infections means a much more rapid recovery, therefore its advantage. The history of the treatment of such infection is one of following the pus by making additional incisions. Such infected hands being operated upon two or three times when as if proper drainage is established by the first incision, subsequent openings are not necessary. Ninety five per cent of the infected hands requiring two or more operations occur in those cases given office treatment.

Besides reducing disability a number of these serious hand infections would have resulted in permanent deformities if this radical treatment had not been adopted early.

Many cases of prolonged disability and also of premanent deformities result from a wrong diagnosis of the type of infection and a lack of understanding of the location of pus, inadequate surgical treatment either too small or too large or too many incisions. Some of our cases of serious deformity comes under this head. Karnavel has demonstrated conclusively that there are certain definite spaces where infection entering at various points on the hand tends to spread. A knowledge of these spaces and the location of injuries that usually leads their involvement should be had to properly open and drain these most serious types of hand infection.

To know the relations and boundaries of the various spaces is just as important as it is to know where to enter the abdomen for the appendix, pustubes, or gall bladder, in other words infections about the fingers and hand have long been considered of rather minor importance and have been treated accordingly, whereas they must be studied and treated by the most approved surgical procedure. And every possible means, both locally and constitutionally must be employed to hasten recovery and prevent a spread of the infection.

In dealing with this question of hand infection the general practitioner and the surgeon alike must recognize he is dealing with a great economic problem, and that much depends on his ability to cope with it properly from the viewpoint of the infected individual, his future earning capacity is often at stake and this can be matterially affected if poor functional results are obtained. Every industry both large and small are held responsible for employes accidents and resulting complications. Thus by the intelligent and proper treatment of such prevalent conditions as hand infections the surgeon is able to save industries a great financial loss. The wise employer is beginning to recognize the retro-active results of the proper medical and surgical care of his employe's. Hence the demand for properly trained surgeons.

Therefore the surgeon must recognize that in order to give the best results from every view point the prevention and treatment must include the removal of external causes for accidents. Remove all of predisposing causes for infections found in the employe. The sending of every injured employe to the doctor for immediate care and dressing. The treatment of hand infections as a serious surgical condition from their inception, and whenever indicated the adoption of Hospital treatment early, the proper and early diagnosis of the type and nature of the infection and the exact location of the pus. A proper incision of the abcess in order to establish good drainage and yet not spread the infection to other spaces.

TOXIC TONSILS.

W. C. Lyle, M. D., F. A. C. S.,
Atlanta.

It may seem a "far cry" from "flu" to tonsils, but the recent epidemic must, with its many other evils, excuse the imposition of this paper, on a subject that to the average physician must appear to be already overdone.

I would preface my remarks with the statement that no one has satisfactorily explained the function of the tonsil. Many preposterous, absurd and bizarre theories have been advanced, but few if any are susceptable of scientific proof.

That they are atavistic remnants without function is hard to believe for they reach their highest development in the higher animals. (1)

The internal secretion theory of Neassini has been exploded by Caldera, who injected tonsilar extracts into animals without any circulatory effects, any anti-bacterial action, or the production of any typical ferment or internal secretion. Clinically this is confirmed by the fact that no case has ever been reported where symptoms, attributable to the loss of such secretion has followed a tonsillectomy.

The protection theory would be tenable, only if it could be shown that the lymph stream from the nares passes through the tonsils before distribution to more distant parts. But no such exclusive connection has ever been demonstrated.

The eliminating theory of Ashurst would teach that the secondary inflamation of tonsils following acute infections, is due to the effort of these organs to eliminate the offending organisms. To other observers, however, it seems much more probable that these secondary inflamations are the result of infections from the blood stream.

The immunity theory, popular with the layman, and many physicians, pictures the tonsils as a laboratory, and every crypt a test tube, for the manufacture of toxins, which are absorbed in just sufficient amount to immunize the individual against the invasion of the organisms themselves.

To me, a consideration of the care required to prevent contamination of the real laboratory test tubes, and the myriads of organisms in the vicinity of the tonsillar crypts would instantly destroy the value of the comparison. It, however, brings me to a direct consideration of my title.

My observation of the sequellae of tonsillar involvement has led me to believe that many of the systemic disorders, occurring in connection therewith have not been wholly due to invasion of organisms, but to the toxins, produced by them, together with the inevitable fermentation of cryptic or caseous tonsils.

Tonsillar crypts are tortuous and deep, reaching in many instances the capsular walls. Many of the mouths are at least partially closed by pressure of the muscular tissue surrounding the tonsils. The supratonsillar crypts have the added disadvantage of opening upward. Under these conditions a certain amount of debris is found in all crypts. The epithelial walls of the crypts are very thin and offer little resistance to the invasion of bacteria or the absorption of their toxic products.

Perhaps the organisms most frequently found in diseased tonsils are the strepticoccus, Hemolyticus, and the Streptcoccus Viridans. The former particularly is generally present in "flu." Many patients that gave no history of tonsillar trouble prior to attacks of flu, are now carrying in their crypts, real incubators of these organisms.

The S-haemolyticus seems to have a special predilection for the joints and the violent aching pains, complained of for weeks and months after attacks of flu, may be attributed to these organisms, either direct or through their toxins.

The S-Viridans usually affects the endocardium particularly the valves, and is responsible for the many cardiac lesions suffered by patients who have been victims of our recent epidemics.

My observations, since the outbreak of a year ago, convinces me that fully 50 per cent. of all flu patients are still suffering or have suffered from one or the other of these sequellae.

Unfortunately, and I use this word pur-

posely, comparatively few patients, with these infections suffer any pain or particularly noticeable discomfort with their tonsils. They are not, as a rule, aware that they have any trouble with these organs, and the time has not, as yet, arrived, when physicians feel that they should advise their patients to report occasionally for an examination of the condition of their tonsils, as they do for their teeth. However, at the risk of being considered ultra-radical, I feel no hesitancy in urging that you request your clientele to report to you for such examinations, for several months following attacks of epidemic diseases of this nature. Where the dentist finds an apicial abscess producing general systemic disorders, you will probably find tonsils that are impairing health and menacing life itself. They may not be accompanied with any local discomfort.

Any laryngologist will tell us that the submerged tonsil does more harm than any other variety, and as a rule the patient does not imagine he has any trouble with it.

Recently at the Rockefeller Institute, 154 rabbits were injected with cultures of streptocci taken from tonsils, of which 101 succumbed. Others developed infections of joints, heart and kidneys.

Osler says that "Tonsils are probably the port of entry for the micro-organisms, of the not infrequent cases of endocarditis without recognizable cause. In acute endocarditis of tonsillar origin, if the patient can survive the anaesthetic, it is better to enucleate the tonsils than to permit their continued transference of toxins."

King believes that the absorption of chemical toxins from these organisms in the tonsils is capable of producing serious lesions in the nervous system, in the heart, kidneys, joints, muscles, glands, blood and respiratory tract. These sequelae may be so serious that life itself is endangered.

Davis states, "that the poison of putrefaction in diseased tonsils exerts its most potent and far reaching influence through its effect upon the liver or its biliary secretions. Whether it acts upon the liver in a way that inhibits the secretion of bile or whether it acts upon the bile itself as a neutralizing or transforming agent I am not prepared to say, but the ultimate effect is to produce intestinal auto-intoxication and hence indirectly to produce both the local and systemic symptoms of toxemia.

Through this indirect process I believe the tonsils to be the most frequent and common cause of colds in the head, so called bilious headaches, intestinal indigestion, and even appendicitis, by weakening resistance to infection rather than by direct transmission of the tonsillar infection itself."

My observations lead me to predict that the laboratory chemist will soon investigate the toxic nature of the contents of diseased tonsils, in the same effective way that the bacteriologist has done, and that results, far reaching in their influence will be the outcome.

I have purposely refrained from referring to local symptoms and infections of the tonsils, or to systemic conditions that clearly can not be due to toxic affects as they do not come within the scope of this paper.

I have likewise referred to no particular method of treatment or operation, but in justice to the surgeon doing this kind of operative work I feel that I should lay the blame for adverse criticism of tonsillar operations on imperfect surgery. All well informed medical men recognize that a diseased tonsils should under ordinary circumstances be removed in its entirety, and the old tonsillotomy relegated to the discard. I advocate no particular method of doing a tonsillectomy. Each operator should use the methods and instruments with which he is most familiar, and which experience shows him, enables him to get best results.

Do not regard a tonsillectomy as a minor operation. The general surgeon who does a tonsillectomy, complete, smooth and bloodless will tell you it requires more skill than to do an appendectomy. Yet many general practitioners attempt this operation, who would not try to do the latter.

During the past six months I have, as consultant for headquarters, U. S. P. H. S. seen several hundred men who have been farmed out" to the small Hospitals in the five states comprising this district, for the purpose of having their tonsils removed,

and I must confess my astonishment, at some of the results. A so-called tonsillectomy, done for the relief of recurrent arthritis, by a prominent general surgeon, of this district, was admitted to hospital for completion and repair of his first operation within less than a month. No man may expect satisfactory results from tonsillar surgery unless he does tonsillar operations more frequently than the average general practitioner. This is not meant as a derogatory criticism, but a statement of fact based on personal observation.

Such operations almost invariably produce more trauma, a great deal more hemorrhage, a longer period of convalscence and a higher percentage of ill results; generally due to faculty technique. Three deaths have recently come under my observation, among the men mentioned above, due to secondary hemorrhage, sepsis, and pneumonia due to inspiration of blood.

Among the apparently permanent complications noted; paralysis, impairment of voice, and of hearing have occurred.

Complications of a temporary nature have been numerous.

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RADIUM THERAPY FOR UTERINE HEMORRHAGES.

By Dr. O. D. Hall,
Atlanta, Ga.

This paper is written for the purpose of showing the effect of Radium as a therapeutic agent for hemorrhages of the uterus, both malignant and non-malignant, but does not treat of the pathology of malignancy other than the hemorrhages themselves. The purpose of reporting the malignant cases is to show that Radium does produce effect on hemorrhages in malignancy of the uterus.

REPORT OF CASES.

Malignant.

Within the last three years the writer has treated seventy-five malignant cases, as follows:

Seventy-four of these were inoperable, one was operable. This patient is living, is in good health, and has had no more hemorrhages since the first application of Radium. Of the seventy-five cases treated, the hemorrhages of ten were not controlled, five of which had had a hysterectomy. At the time of treating these patients,, each had an extensive recurrence, extending into the pelvis. Of course, the rays did not come in contact with the pelvic pathology, therefore no results should be expected. Of the other five cases the writer was unable to ascertain the cause of failure to obtain any results. Fifteen of the seventy-five had a cautery to destroy some of the pathology, which is a timely treatment in cases involving large mass of the cervix, and therefore we must give the cautery credit for controlling the primary hemorrhages in these cases.

These malignant cases must be treated from time to time to control the hemorrhages, for as the pathology increases, the hemorrhages return, and it is by destroying the pathology that the hemorrhages are controlled in such cases; but there is selective effect of Radium immediately after treatment, even before the pathology has had time to disappear.

Non-Malignant Cases.

Case No. 1: Age 33; married; mother of three children; hemoglobin 40. Patient referred to me by Dr. L. Sage Hardin, who had been treating her for three years for uterine hemorrhages. She had been put to bed and would stay as long as six weeks; had been given the usual therapeutic agents for hemorrhages, but as soon as she would get up, the hemorrhages would return.

These hemorrhages would begin at menstruation and last from two to six weeks, and it was difficult to ascertain at times when menstruation began and hemorrhage ended. Patient received treatment of 750 Mg. hours on March 15, 1916, the Radium having been placed in the uterus. In two days hemorrhage was entirely stopped. Patient has had normal menstruation since, and her health is good.

Case No. 2: Age 49. Patient was refer-

red to me by Dr. J. H. Downey, who found that she had a small fibroid, which could be felt through the abdomen and from the vagina. She had had hemorrhages for the last five years, and had lost so much blood that she was quite anemic. Dr. Downey discovered that she had a heart murmur and thought it unwise to do a hysterectomy. She was given a treatment of 1005 Mg. hours on July 11, 1918. At her next menstrual period the patient had hemorrhage extending over a period of two weeks. She was sent back to the hospital and at this time was given 950 Mg. hours. Five months after the first treatment, the writer made an examination and found that the tumor had entirely disappeared, patient had had no more hemorrhage, and had gained 20 pounds in weight. This patient says that she feels better than she has felt in six years, and is able to attend to her usual domestic affairs.

Case No. 3: Referred to me by Dr. Geo H. Noble, who suspected malignancy. She had lost so much blood that Dr. Noble thought it unwise to do a hysterectomy in her present condition. She was given 1050 Mg. hours on June 3, 1918, after which the writer advised her to consult Dr. Noble as to whether an operation would be advisable at the expiration of two months. Having heard nothing from her within six months, she was written concerning her condition and she replied that she had had no more hemorrhages and that her health was good, but that if she had any more trouble she would come to see us.

The reason for reporting this case under non-malignant cases is that our diagnosis was not positive of malignancy.

Case No. 4: Age 48; Married and mother of several children. Referred to me by Dr. Floyd W. McRae. She had had several hemorrhages for the previous two years. She was given 1150 Mg. hours September 20, 1918, and had a moderate hemorrhage at her next menstrual period, which lasted only a few days. Up to the present time she had had no more hemorrhages nor menstruation, for she has passed the menopause.

Case No. 5; Age 44; married and the mother of several children. Referred to me by Dr. Annie L. Sawyer. She had been having hemorrhages for the last two years; would lose quantities of blood every month. She received 1100 Mg. hours of treatment on November 28, 1916. At her next menstrual period she had some hemorrhage, but has been free from menstruation and hemorrhage since that time.

Case No. 6: Age 45; married, and mother of five children; had had profuse menstruation all her life. In April, 1916, patient stated that she had been having continuous hemorrhages for the past four weeks. She preferred to go to a hospital and be under the care of a gynecologist than be treated with Radium then. She was sent to the hospital where she was treated by a gynecologist for two weeks—hemorrhage stopped, but returned a few days after she had gone home. On May 18, 1200 Mg. hours of Radium was given, and upon removing the Radium the hemorrhage had stopped. At her next menstrual period she had a slight hemorrhage, which lasted only two or three days. Since that time she has had no more menstruation nor hemorrhage, and her health is good.

Case No. 7: Age 39; married; no children. Uterus very large; frequent hemorrhages for the last two years; hemoglobin 30. Her physicial condition was bad. July 20, 1917, she received 750 Mg. hours. Hemorrhage stopped, and patient had deferred menstruation for a period of six months. Since that time she has had menstruation for the first time in her life, and her health at present is good.

Case No. 8: Age 49; married and mother of several children. She had been having hemorrhages for the last two years, which did not yield to any kind of treatment. She received 950 Mg. hours of Radium on July 2, 1916. She had a slight hemorrhage at the next menstrual period, but since that time she has had no menstruation hemorrhage, and her health is good.

Case No. 9: Age 44; married, mother of several children. Referred to me by Dr. E. C. Davis, who had been treating her, with her family physician, for these hemorrhages for nearly a year. Her hemoglobin was 30, and general condition very bad. On May 5, 1917, she received 850 Mg. hours, and hemorrhages ceased within three days after treatment. At her next menstrual period she

had some hemorrhage which lasted two weeks. On June 6 she returned and received 1,000 Mg. hours. Since that time she has had no more hemorrhage nor menstruation,, and her health is good.

Case No. 10: Age 44; Married; had no children; had been having hemorrhages for a period of six months. June 23, 1918, patient received 600 Mg. hours—a light screen being used and Radium placed into the cervix—did not extend up into the uterus. She has had no more hemorrhage nor menstruation; health is better than it has been for several years.

Case No. 11: Age 45; married and mother of several children. Referred to me by Dr. J. H. Downey. Patient had been having hemorrhages for more than a year, and was quite anemic. Dr. Downey discovered a small fibroid, to which he attributed the hemorrhages. On August 28, 1918, she received 950 Mg hours. Patient had some hemorrhage for afew days,followed by a straw-colored fluid lasting six weeks. Three months after treatment patient was examined and it was found that the fibroid had disappeared. She has had no more hemorrhages nor menstruation, and her health is better than it has been for several years.

The writer wishes to call attention to some of the above cases. You notice that several had hemorrgages at the next menstruation after they had had treatment. This seems to be hard to explain unless it is due to the fact that there is some sloughing of the endometrium, or the uterus has not had time to contract. Most of these cases of nonmalignant hemorrhages are found in large fleshywomen who have flabby muscles, and the uterus seems to be very much like the other muscles of the body. It is interesting to note that after these patients have had Radium treatment the large uterus will contract to a firm normal condition.

Ie is also interesting to note that young women who have had disturbed menstruation for a uumber of years will frequently be normal after a short radiation. It has been my custom to give a woman under 40 years of age not over 700 Mg. hours, that is if this controls the hemorrhages. In a few instances it has been necessary to repeat the treatment. It is wise to give a moderate treatment first and take no chances in destroying menstruation.

Of the seventy-five cases of malignancy reported, sixty per cent of this number gave a history of uterine hemorrhages from one to six years before the malignancy was discovered. Evidently all of those hemorrhages during this time were not due to malligancy. Therefore, we accomplished something more than controlling the hemorrhages-the pathology which causes these uterine hemorrhages was destroyed, which might have resulted in cancer in the future if left alone.

None of the non-malignant cases treated by Radium have had malignancy to date.

This report runs over a period of three years.

INFLUENZA VACCINE.

E. C. Rosenow and B. F. Sturdivant, Rochester, Minn. (Journal A. M. A., Aug. 9, 1919), report their experience with prophlactic vaccine prepared at Rochester. Influenza bacilli were numerous at the beginning of the epidemic, but were rarely found later in its course. They were, therefore, left out of the later vaccine, which contained a higher proportion of the green-producing streptococci. The formula of the vaccine, as finally used, is given. The concentration was twice as great as at first, and the quantity of liquid reduced one-half. The injections were given subscutaneously one week apart. The results were obtained under the most varied conditions, as reported by the physicians to whom the vacine was sent for testing. In some places, the mortality was excessively high, and in others comparatively low, but the number of inoculations was such as to make the statistical figures fairly dependable. The observations were reported over a period of from three to seven months. While the incidence of influenza and pneumonia reported is probably inexact, the error should be about the same in the vacinated and unvacinated groups If there is any difference, the number of cases reported among the vaccinated is likely to be proportionately higher than that of the cases in the unvaccinated group, as the occurrence of influenza after vaccination would naturally tend to a higher percentage or re-

ports to the physicians who gave the inoculation. The average incidence of influenza and pneumonia is the group inoculated three times is about one third of that in uninoculated persons. The average mortality among the latter, according to the statistics sent to the authors, approximates the mortality rate (5.4 per cent.) from the epidemic in sixteen large cities of the U. S., as given in the Public Health Report, February 7; while that amongst the group inoculated three times is about one fifth of this. A definite, though smaller, rate of protection seemed to be afforded by only one or two inoculations. In a series of hospital etses of influenza, the tendency to develop pneumonia in the vaccinated was about one third of that in the unvaccinated. While the number of completed vaccinations in pregnant women was not large enough for exact figures, the indications are clear that a definite degree of protection was afforded, and from all the facts obtained it seems evident that with the use of a properly prepared vaccine it is impossible to rob influenza of some of its terrors. From the data obtained by Fennel and Cecil and Vaughan from the use of lipo-vaccines in pneumonia, it is strongly suggested that still better protection than that obtained by the use of saline vaccines, as reported in his paper, is possible.

PROPHYLACTIC VACCINATION AGAINST INFLUENZA.

G. W. McCoy, Washington, D. C. (Journal A. M. A., Aug. 9, 1919), reviews the varied opinion as to the etiology of influenza and influenzal pneumonia. Although the Pfeffer bacillus is commonly known as the influenza bacillus, there is really no convincing evidence of its causal relation to the disease, and, moveover, it includes a number of organisms varying in pathogenicity. As regards influenzal pneumonia, we find a rather general opinion that itis due to Pfeiffer's bacillus, or to a secondary invasion of acknowledged pathogenic organisms, particularly the variouus types of pneumococci, the streptocci, especially those known as hremolytic, and less commonly, Friedlanders pneumobacillus or the staphhlococcuus. The organisms in influenzal pneumonia, as a rule, do not conform to the general type associated with pneumonia, and the disease can be differentiated from those ordinarily due to the pneumococcus of labor pneumonia. Immunization against the latter would appear to be of little value as affording immunization against the influenzal type. The vaccine from the influenza bacillus alone seems to have been used largely only in New England, and if the figures as to its use are carefully examined, its value would seem very dubious. Most of the inoculations were made during the epidemic, and the case incidence among the vaccinated was compared with that in the general population or of the control groups from the beginning of the epidemic. To make clear the error in this, "let us suppose that ten days after an epidemic started in a population of 1,000 persons, an admittedly worthless vaccine was administered to one half of those who at that time remained unattacked by the disease. Let us further assume that on the date of vaccinaion, 20 per cent. of the population had sickened, leaving 800 well persons, of whom 400 were vaccinated. Since the hypothetic vaccine is worthless, the morbidity of the disease will be as great in the vaccinated as in the nonvaccinated group. Let us assume this to be an additional 20 per cent. Then the total morbidity in the vaccinated group will be 20 per cent. of 400, or eighty cases. The total morbidity in the unvaccinated group, however, if we consider the entire period of the epidemic, will be 20 per cent. of 1,000, or 200, plus 20 per cent. of 400, or eighty, which would make 280 cases." Reports have been made, however, based on assumptions which would make the hypothetically worthless vaccine seem a valuable prophylatic. McCoy gives examples showing the failure of the influenza bacillus vaccine as a prophylatic, passed on to the vaccines made from the streptococcus and other organisms, and discusses their value. The impression is left that they may be of value, but that whereever they have been tried under perfectly controlled conditions, they fail to influence, definitely, either the mortality or the morbidity of the disease.

THE JOURNAL

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NEWS: Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to physicians. We shall be glad to know the name of the sender in every instance.

Editorials

(Uncorrected) PROGRAM.

Seventy-First Annual Session, Macon, Ga., May 5-6-7, 1920.

INFORMATION.

Headquarters.

Hotel Dempsey.

Meeting Places.

Ball Room and Gold Room of Hotel Dempsey.

CANCER COMMISSION.

The Commission appointed by The Medical Association of Georgia for the study and control on cancer, acting with the Bibb County Medical Society, have arranged a public meeting for the evening of May 6th at the City Hall, the meeting to be presided over by Dr. E. G. Jones, President of the Medical Association of Georgia. An address will be delivered by Dr. Harvey R. Gaylord.

Membership Cards.

In order to facilitate registration it is urged that every member be prepared to show his membership card at the registration desk, where badges will be provided.

No member will be allowed to participate in the meeting unless provided with an official badge.

Subscription Dinner

The Annual Subscription Dinner will be held at the Dempsey Hotel. Tickets will be on sale at the regular sessions of the Association and must be procured by 3 P. M. of the second day.

The local committee intends that this dinner shall be **only as dry** as the law de-

mands and objecting to "cruel and unusual punishment," no one will be allowed to make a speech. Certain other features, however, will be introduced that have been **censored** by the Chairman of the Amusement Committee and **passed** as being reasonably safe for all except the very young members.

Members appearing in evening dress will be presumed to be "**half shot**" already, and barring confession and certain information, the operation will be completed at sun rise.

The Officers of the Public Health Section, will be empowered to adjourn this session at such time, as in their opinion, necessity demands.

Meeting of Council.

The Annual Meeting of the Council will be held Tuesday evening preceding Association meeting, at Dempsey Hotel.

Sub-Sections.

Former experience has shown that with the time at the disposal of the scientific section, only about thirty-six papers may be read and discussed. The Committee on scientific work is cognizant of the fact that the Association is opposed to the division of its scientific work into sections, but has had placed before it the unpleasant alternative of placing certain papers in sub-sections or else omitting from the scientific program at least half the papers. Feeling that it would be unjust to the members who have volunteered to contribute papers to place them on the program with no possible hope of reaching them in time to have them read, the committee has reluctantly placed certain papers on highly specialized subjects in sub-sections, endeavoring to cause as little conflict as possible with other papers on the general program and thus with the time allotted to the scientific program enable all essayists to present their papers and have them freely discussed.

Wednesday Morning, May 5.

Meeting of House of Delegates at nine-thirty o'clock.

Meeting called to order by the President:
Dr. E. G. Jones, Atlanta, Ga.

Invocation.
Rev. T. D. Ellis, Macon, Ga.
Report of Committee on Arrangements.
Report of House of Delegates.
Report of Committees.

PAPERS.

1. "**Snapping Hip With Report of Cases.**"
M. C. Pruitt, M. D., Atlanta.
2. "**Medical Aspects of Surgical Patients.**"
W. H. Lewis, M. D., Rome.
3. "**Early Diagnosis the Means of Reducing the Death Rate From Cancer.**"
J. L. Campbell, M. D., Atlanta.
4. "**Cancer—Its Treatment by Radium.**"
C. C. Harrold, M. D., Macon.
5. "**Chlorine Antiseptics In Surgery.**"
J. M. Barnett, M. D., Albany.
6. "**Spinal Anesthesia, with Report of Cases.**"
W. L. Cooke, Columbus.
7. "**Local Anesthetics.**"
L. C. Fischer, M. D., Atlanta.
8. "**The Administration of Ether.**"
Emory R. Park, M. D., LaGrange.

Wednesday Afternoon, 2:00.

(General Session in Ball Room. Pediatric Section in Gold Room).

9. "**Mobilization vs. Immobilization.**"
Theodore Toepel, M. D., Atlanta.
10. "**The Skin Disease Service in an Army Base Hospital.**"
J. M. Sigman, M. D., Macon.
11. "**Diagnostic Problems of the Chest.**"
E. C. Thrash, M. D., Atlanta.
12. "**Gun Shot Wounds of the Chest.**"
G. S. Murray, M. D., Columbus.
13. "**Gun Shot Wounds of the Chest and Their Treatment.**"
T. C. Davison, M. D., Atlanta.
14. "**An analysis of a series of heart lesions with especial reference to etiology and treatment.**"
R. H. Stovall, M. D., Macon.
15. "**The Demonstration of Dilated Aorta by Physical Examination.**"
Arch Elkin, M. D., Atlanta.
16. "**The Importance of Ureteral Stricture in Abdominal Diagnosis.**"
George Y. Massenburg, M. D., Macon.

17. "**Thrombo-Angiitis Obliterans. Characteristics and Treatment.**"
Samuel J. Sinkoe, M. D., Atlanta.
18. "**Exhibit of Surgical Cases.**"
Harry Moses, M. D., Macon.
19. "**Exhibit of Uterine Radium Holders.**"
Cosby Swanson, M. D., Atlanta.
20. "**Bone Diseases by X-Ray.**"
Jas. J. Clark, M. D., Atlanta.
21. "**Review of Forty-Three Gall Bladder Operations with Reference to End Results.**"
R. M. Harbin, M. D., Rome.

PEDIATRIC SECTION.

Wednesday Afternoon, 2:00.

GEORGIA PEDIATRIC SOCIETY.

President, L. B. Clark, M. D., Atlanta.
Secretary, A. J. Waring, M. D., Savannah.

1. "**Aims and Scope of the Georgia Pediatric Society.**"
T. D. Walker, M. D., Macon.
2. "**Infant Feeding for the General Practitioner.**"
W. L. Funkhouser, M. D., Atlanta.
3. "**Complemental Feeding of Babies.**"
W. A. Mulherin, M. D., Augusta.
4. "**Some Essential Factors in Infant Feeding.**"
M. M. McCord, M. D., Rome.
5. "**A Study of the Correllation of the Ductless Glands and the Result of a Year's Work in Defective and Spastic Children.**"
L. B. Clark, M. D., Atlanta.
6. "**Symptoms of Dehydration of Tissue Arising in Diseases of Children.**"
Frank Mulherin, M. D., Augusta.
7. "**Pyelitis.**"
A. J. Waring, M. D., Savannah.
8. **Cardiac Conditions in Children. Their Significance and Prognosis.**"
Benj. Bashinski, M. D., Macon.
9. "**Diphtheria, Symptoms, Prophylaxis and Treatment, with Special Reference to Intubation Cases.**"
C. A. Almand, M. D., Atlanta.
10 "**A New Navel Band and Better Way of Putting a Diaper on a Baby.**"
S A. Visanska, M. D., Atlanta.

Wednesday Night, 8:00.

20. "**Disorders of the Pituitary Gland.**" **(Illustrated).**
Wm. Engelbach, M. D., St. Louis.
21. "**Some Remarks on Plastic Surgery of the Face.**" **(Illustrated).**
E. D. Highsmith, M. D., Atlanta.
22. "**Treatment of Chronic Osteo-Myelitis and Bone Sinuses. (Illustrated).**
W. L. Thornton, M. D., Atlanta.
23. "**Report of a Case of Malignant Teratoma.**" **(Illustrated).**
Harry C. Schmeiser, M. D., Atlanta.
24. "**Venereal Disease Film.**"
J. P. Bowdoin, M. D., U. S. P. H. S.

Thursday Morning, 9:30.

Two Sections.
Ball Room and Gold Room.

First Section, Vice-President W. H. Hendrix, Presiding.

1. "**The Nervous and Mental Clinic at Macon.**"
N. P. Walker, M. D., Milledgeville.
2. "**The Importance of Determining the Casual Factor in Mental Disease.**"
Jas. N. Brawner, M. D., Atlanta.
3. "**Some Modern Psychiatric Problems.**"
R. C. Swint, M. D., Milledgeville.
4. "**The Endocrines and Their Relations to Dementia Precox.**"
Newdigate M. Owensby, M. D., Atlanta.
5. "**Epidemic Encephalitis.**" **(Encephalitis Lethargica).**
Lewis M. Gaines, M. D., Atlanta
6. "**The Blood Pressure in a Case of Intermittent Claudication.**"
E. Bates Block, M. D., Atlanta.
7. "**Roentgen Ray Study of the Abdominal Organs Following Oxygen Inflation of the Peritoneal Cavity.**"
Geo. M. Niles, M. D., Atlanta.
8. "**The Treatment of Hyperthyroidism.**"
M. F. Morris, Jr., M. D., Atlanta.

President's Annual Address at Noon.
Individual Reports of Councilors.
RECESS.

Thursday Morning, 9:30

Two Sections.
Ball Room and Gold Room.

Second Section, Vice-President J. M. Smith, Presiding.

1. "**Bronchial Disturbances of Nasal Reflex Origin.**"

Newton Craig, M. D., Atlanta.

2. "**Secondary Implantations in the Sunken Orbit After Enucleation of the Eye.**"

J. C. McDougall, M. D., Atlanta.

3. "**The Differential Diagnosis of Trachoma and Folicular Conjunctivitis (Eye Adenoids) in Children.**"

T. E. Oertel, M. D., Augusta.

4. "**Is the Frequent Removal of the Tonsils Justifiable?**" **A Querry.**

Dunbar Roy, M. D., Atlanta.

5. "**Removal of Foreign Bodies from the Esophagus and Bronchial Tree.**"

G. D. Ayer, M. D., and J. H. Buff, M. D., Atlanta.

6. "**Extraction of Foreign Bodies from the Trachea, Bronchi and Esophagus. Report of Ten Cases in Detail.**"

C. L. Pennington, M. D., Macon.

President's Annual Address at Noon.

Individual Reports of Councilors.

RECESS.

Thursday Afternoon, 2:00.

Two Sections.

Ball Room and Gold Room.

1. "**Retro-Peritoneal Fibro-Lipomata.**"

W. R. Holmes, M. D., Atlanta.

2. "**Report of Cases. Traumatic Rupture of the Bladder Through the Rectum. Round Worms in the Appendix.**"

Frank K. Boland, M. D., Atlanta.

3. "**Tumors and Injuries of the Spinal Cord.**"

David B. Hawkins, M. D., Atlanta.

4. "**Surgery of the Gall Bladder.**"

Garnett W. Quillian, M. D., Atlanta.

5. "**Local Anesthesia in Gall Bladder Surgery.**"

W. A. Selman, M. D., Atlanta.

6. "**Local Anesthesia in Abdominal Surgery with Synopsis of Thirty-Three Cases.**"

L. W. Grove, M. D., Atlanta.

7. "**End Results Following Rovsing's Operation for Gastrocoloptosis.**"

Geo. R. White, M. D., Savannah.

8. "**Treatment of Fractures Involving the Elbow Joint.**"

O. L. Miller, M. D., Atlanta.

9. "**Some Orthopedic Principles in the Treatment of Wounds.**"

F. G. Hodgson, M. D., Atlanta.

10. "**Some Remarks on Goitre.**"

R. L. Rhodes, M. D., Augusta.

11. "**Diverticula of the Bladder.**"

W. S. Goldsmith, M. D., Atlanta.

Thursday Evening, 7:00.

Subscription Dinner.

Special tables may be arranged for Class Reunions.

Thursday Nnight, 9:00.

City Hall.

Public Address on the Prevtntion of Cancer.

Harvey G. Gaylord, M. D., Buffalo, N. Y., Director State Institute for the Study of Malignant Disease.

Thursday Afternoon, 2:00.

Two Sections.

Ball Room and Gold Room.

Public Health Section.

Pres., J. P. Bowdoin, M. D., U. S. P. H.

Sec'y, M. F. Haygood, M. D., Atlanta.

1. "**Resume of Public Health Work in Georgia.**"

J. P. Bowdoin, M. D., U. S. P. H. S.

2. "**Georgia's Anti-Malarial Campaign.**"

T. F. Abercrombie, M. D., Atlanta.

3. "**Malaria and Its Control.**"

J. A. A. LePrince, U. S. P. H. S.

4. "**Milk Standards From the Standpoint of Public Health.**"

V. A. Bassett, M. D., Savannah.

5. "**The Work of the U. S. P. H. S. in Relation to the Bureau of War Risk Insurance and Federal Board for Vocational Education.**"

Geo. S. Pitcher, M. D., U. S. P. H. S.

6. "**Status of Rabies in Georgia.**"

T. F. Sellers, M. D., Atlanta.

7. "**Abeyant Hospitals for Emergent Epidemics.**"

R. L. DeSaussure, M. D., Rome.

8. "**The Modern Health Officer vs. the Quarantine Officer of Twenty Years ago.**"

M. F. Haygood, M. D., Atlanta.

9. "**The State Board of Public Welfare.**"

Friday Morning, 9:30 O'Clock.

... **Report of House of Delegates.**

1. "**A Consideration of Breast Tumors, With Special Reference to So-Called Cystic Mastitis.**"

C. W. Roberts, M. D., Atlanta.

2. "**Hypertrophic Stenosis of the Pylorus.**"

W. W. Battey, Jr., M. D., Augusta.

3. "**Ectopic Pregnancy.**"

H. M. S. Adams, M. D., Atlanta.

4. "**Tubal Pregnancy.**"

W. F. Wells, M. D., Atlanta.

5. "**The Relief of Menorrhagia and Metrorhagia by Roentgen Treatment.**"

W. A. Cole, M. D. Savannah.

6. "**Observations and Suggestions in Tissue Diagnosis.**"

John Funke, M. D., Atlanta.

7. "**Chest Pains From the Vascular Viscera.**"

Stewart R. Roberts, M. D., Atlanta.

8. "**Twenty Years in the Practice of Medicine. Some Changes and Experiences.**"

Jas. H. Crawford, M. D., Martin.

9. "**The Utility of Influenza-Pneumonia Vaccine in Pregnancy and Post-Operative Conditions.**"

Marion T. Benson, M. D., Atlanta.

10. "**Serum Treatment of Pneumonia.**"

Herbert J. Rosenberg, M. D., Atlanta.

11. "**Pneumonia From the View Point of the General Practitioner.**"

C. M. Curtis, M. D. College Park.

Friday Afternoon, 3 O'Clock.

Election of Officers.

President.
First Vice-President.
Second Vice-President.
Secretary-Treasurer.
Delegates to A. M. A.
Alternate.

Councillors for

Ninth District.
Tenth District.
Eleventh District.
Twelfth District.

Organization of Council.

PROGRAM FOR MEETING OF HOUSE OF DELEGATES.

Wednesday Morning, May 5th, 9:30.

Call to order by President.
Enrollment of Delegates.
Report of Committees.

Thursday Morning, 9:00 O'Clock.

Call to order by President.
Report of Committees.
Report of Delegates to A. M. A.
Report of Council.
Unfinished Business.
New Business.

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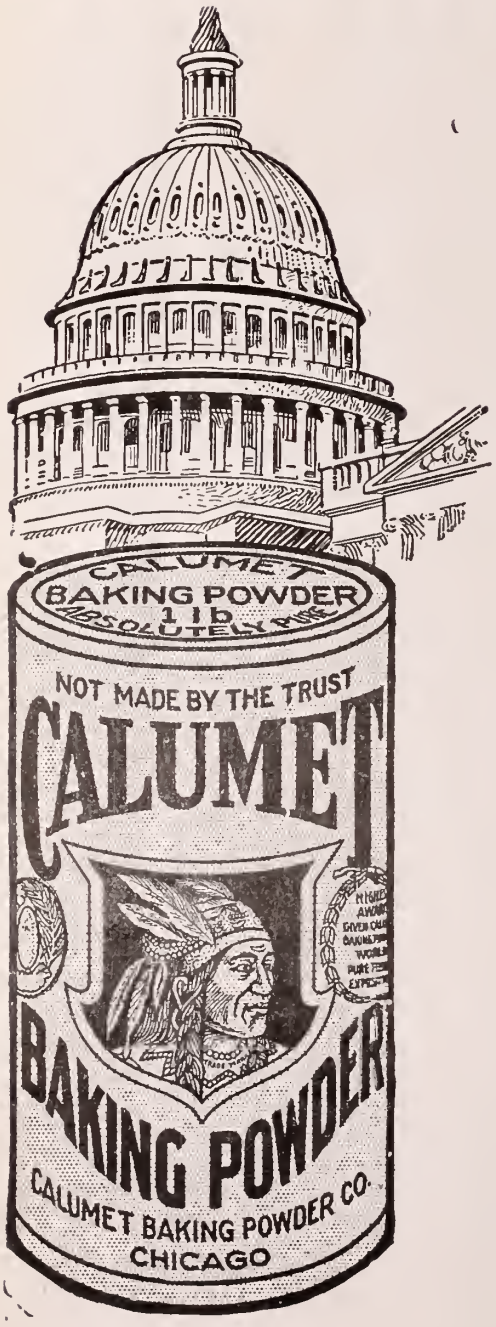
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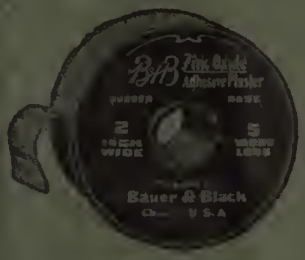
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ORIGINAL ARTICLES

RULES AND SUGGESTIONS FOR TREATMENT AT THE SYPHILIS CLINIC, ATLANTA MEDICAL COLLEGE.

W. B. Emery, M. D., Atlanta, Ga.

1.

All new patients entering the Syphilis Clinic should be given a Wasserman Card and Card for Urinalysis on their first visit and instructed to try, if possible, to bring a specimen of Urine to the Laboratory that a report may be had before their next Clinic day. No treatment should be given on the first visit to the Clinic unless patient is referred by another department with positive Serological finding or a positive diagnosis of Syphilis, unless exceptions be made by physician in charge.

II.

No patient should be given treatment until Renal and Cardiac examinations have been made.

III

Should the diagnosis be positive and lack of time prevent history being obtained, treatment may be begun and history taken at a later date. But, when diagnosis is not positive and is only suspicious, no treatment should be given until history is taken.

IV

Patients should be advised not to eat for at least six hours before taking the Intravenous Arsenical preparation (Wednesday and Friday) and be sure that their bowels move well on the morning of the day they receive the medicine and drink at least six glasses of fluid on this day. Four glasses before and two glasses after the administration of the medicine.

V

Patients without infectious lesions are to take eight doses of the Arsenical preparation intravenously, one every other week, together with weekly doses of Mercury Salicylate administered intramuscularly. The Mercury should be given continuously for twenty-five weeks, unless Ptyalism or Mercury poisoning occurs. Should intolerance of either of the above drugs be exhibited, the fact should be reported to the physician in charge.

VI

Patients with initial lesions must have eight weekly doses of the Arsenical preparation and those with other infectious lesions must have weekly doses, until the infectious process disappears, but should this infectious process cease before the eight doses have been administered, bi-monthly doses may be begun. They should also be given the twenty-five doses of Mercury, covering a period of twenty-five consecutive weeks. Should for any reason the patient be permitted to omit the Mercury for one or more doses, the time must be extended, that they may receive the twenty-five doses. Causes for omitting Mercury are: Ptyalism, Menses, Fever or providential reasons.

VII

On the Clinic day, one week after the twenty-fifth dose of Mercury has been administered, a Wasserman should be made and if result be negative and the patient has no objective symptoms of Syphilis, the patient is to be given two months rest from treatment and told to return at the end of that time for another Wasserman and examination. Should at this time, the Wassermann be found negative, a provocative test should be made and if this shows negative, the patient is given another two-months' rest, and so on, returning every two months for examination for at least a period of two years

VIII

For those patients whose Wasserman remains positive, even one plus, after the twenty-five doses have been administered, if their physical condition will warrant further specific treatment, must continue their weekly doses of Mercury until twenty-five more doses have been taken and at the end

of this course, another examination is made. These courses of treatment must be repeated as above, unless changed for individual patients by the physician in charge.

IX

Iodide of Potash should be administered in all cases of late Secondary and Tertiary Syphilis. After a patient is considered cured, they should be advised to take some form of Iodine for at least six weeks in the year during the remainder of their lives.

X

All cases of Syphilis of the nervous system, with the exception of children under twelve years of age, must be referred to the Nervous Diseases Clinic to consult the physician in charge of this class of cases, who will direct a line of treatment. In turn, he may direct them to return to other clinics than his own, but in each case he should state in writing just what treatment he wishes administered.

XI

All Syphilitic children twelve years of age and under must be sent to the Department of Pediatrics, where the records should be kept and histories taken. Should the physician in charge of this Department desire the administration of the Arsenical preparation, the children may be sent to the Syphilis Clinic indicating in writing the size dose for each individual patent. If the Pedatrician is not present, the children must be accompanied by an assistant or student of that Department. The drug should be administered by the physician in charge of the children's Clinic, or by one he may direct. In his absence the physician in charge of the Syphilis Clinic will direct its administration. These patients should not be allowed to sit in the main waiting room, but kept in private rooms as near as possible.

XII

All cases of Syphilis showing Shock and must be reported at once to the physician in charge and noted on the history of the patient. All care must be taken to carry out the wishes as near as possible of the physician in charge of the other departments.

429-430 Candler Bldg.

A CASE OF PROGRESSIVE PARENCHYMATOUS DEGENERATION OF THE CEREBELLUM.

Jas. N. Brawner, M. D., Atlanta, Georgia.

History—Mr. B. age 60. Occupation, lawyer and banker. Mother still living at age of 87. Father died at 70 of pneumonia. Married and has two healthy children with the exception that one child is rather nervous. Patient had a brother who died of a nervous trouble, but his brother showed no disturbances in gait, so far as he remembers. He also had an aunt who died of some brain disease of a progressive nature. The patient in his boyhood was very small and did not develop until he was about 18 years of age. He then grew into a healthy man. Up to five or six years ago his general health was good. About five years ago he awoke one morning to find that on arising he had vertigo, and on walking had a tendency to fall. This persisted for several days and then disapeared, excepting the ataxia. Since then he has had no vertigo, headache or vomiting, but his ataxia has gradually progressed and during the past six months has become very marked, he being barely able to stand alone. His wife states that his condition had been diagnosed by a physician in an adjoining city as locomotor ataxia. In all probability, however, his condition was diagnosed as cerebellar ataxia, his wife misunderstanding the terms used.

Physical Examination: There are absolutely no sensory disturbances of any kind in any part of the body. His speech is slow, scanning, and explosive, showing marked ataxia of the vocalizing muscles. The explosiveness is very marked during slight emotional excitement. His expression is masklike, rarely blinking his eyes. His pupils are small, though they react to light and to accommodation. His eye grounds as reported by Dr. J. D. Thompson are normal. Nystagmus is absent. There is inability to move the eyes either up or down, though they move from side to side to some extent. Hearing is normal. He is well developed muscularly, showing absolutely no hypotonous or disturbances of muscular nutrition. Hand grips are normal. The flexors, extensors,

adductors and abductors, in all four extremities, are normal in tenicity and strength. On movement there is marked ataxia in all four extremities, the ataxia being the same whether eyes are open or closed. There is no loss of the conscious sense of position. Adiadokokinesis is present to a marked extent. He is absolutely unable to walk alone, falling about helplessly in any position. Has no tendency to rotate. Lateropulsion and posteropulsion are about equal, though the ataxia on the right half of the body is more marked than on the left. The gait is typically a cerebellar one, the patient being absolutely unable to adjust himself relative to space while in a standing position. In making voluntary movements it is necessary for them to be made very slowly, as the muscular adjustments are **consciously** directed. He writes slowly, just like a child learning to write, and frequently his hand in making a letter will go too far. In writing there is a very slight tremor. In other tests tremor cannot be detected. His reflexes are normal, and with the exception of on arteriosclerosis and a bilateral cerebellar ataxia in both lower and upper extremities, involving also the neck, facial, and eye muscles he gives the appearance of a perfectly healthy man. His urine is normal, blood pressure 140, spinal fluid negative to the Wassermann reaction, 2 cells per c. m., ery slight increase in globulins.

Diagnosis: Tumor of the cerebellum can probably be ruled out absolutely in this case. There has been no headache, nausea, or vomiting. The onset of the disease, however, with the attack of dizziness, which later disappeared, is probably indicative of a softening process of arterial origin. The fact that the ataxia has gradually become more marked during the past four years probably indicates a parenchymatous degeneration of the cortex of the cerebellum, which may or may not be accompanied by an arteriosclerotic process. When we take into consideration the absence of nystagmus and tremor and the slow progressive nature of the disease. I think this case worth reporting. It is also remarkable that he shows no muscular weakness or hypotonus.

702 Grant Building.

*BRIGHT'S DISEASE.

W. C. McGeary, Madison, Ga.

The census bureau annual report of mortality statistics for the death registration area in U. S. shows 1,068,932. Deaths as having occurred in that area in the year 1918. This represents a rate of 14.2 of 1,000 population. Of these deaths nearly one-third were due to three causes—heart disease, pneumonia, tuberculosis. Nearly another one-third resulting from the following—Bright's disease, apoplexy, cancer, influenza, arterial diseases, enteritis, diabetes and bronchitis.

It is one of these, viz., Bright's that I present a paper briefly with you all at this Eighth District Medical meeting today.

Brights disease caused 80,912 deaths, or 107.4 per 100,000. The mortality rates from this disease has increased from 89 per 100,000 in the year 1900 with some fluctuation from year to year and since 1914 the increase has been continuous.

Acute Brights' follows cold and exposure, the infectious diseases, especially typhoid, scarlet fever and diphtheria, certain poisons, such as arsenic, turpentine, carbolic acid, etc. It **may occur from extensixe cutaneous burns**, and frequently in the course of pregnancy. Tonsilitis or septic conditions may produce it.

The first symptom to attract attention is generally a puffiness about the face, and then of the extremities and in the extreme cases involves the entire trunk. However, the amount of fluid present is no indication of the intensity of the disease, as we may have a violent and fatal termination in cases accompanied by very little odema. Skin is usually dry and the mouth may be. Anemia may appear early and is generally present. We may have chills in some instances, particularly when the disease is dependent on exposure, but by no means is this frequent —this same statement can also be applied to nausea and vomiting.

There is no temperature curve that is peculiar to acute Bright's—fever may run high, especially in children, or there may be

*Read before Eighth District Medical Association at Watkinsville, Ga.

but little rise at all—ninety-nine to one hundred and three. Pulse in some instances may be full, and increased in rapidity and tension. As a rule the urinary findings are the only ones which afford a clue to the real nature of the disease.

Can you make a diagnosis by clinical symptoms of acute Bright's? No man can do it without examining the urine. You should always examine the urine. What does this urine show?

1. Decreased amount—high spec. gravity—high color and often bloody.
2. Albumen.
3. Blood and leucocytes.
4. Casts, hyaline and granular.

Summing up then in order to make a diagnosis of acute Brights',

1. Urine.
2. Odema (local or general).
3. Rapid pulse, dry skin, chill with or without temperature,

You will have to consider—

Urine

Albumen

Casts

Clinical

1. Decreased amount urine.
2. Chill
3. Fever
4. Odema.

It takes the two in connection with your case to make a true diagnosis of acute Bright's.

What is the prognosis of all nephritis?

1. Recovery. Child, scarlet fever develops nephritis and in a month the child gets well. Usually favorable if treatment is promptly instituted.
2. Chronic nephritis.
3. Death.

The serious danger of acute Bright's is uremia—a toxic condition due to retention of excrementitous substances of which urea is the type—however uremia possesses its own symptomology—headache and drowsines may be the early symptoms, other times sudden vomiting. Sometimes epileptoid convulsions without previous warning. This is a very dangerous symptom. The convulsions usually alternate with periods of drowsiness, though sometimes with lucid intervals. The onset of convulsions is sometimes preceded by coma, or by sudden blindness. Sometimes the pulse is abnormally slow. If the condition does not pass away exhaustion supervenes and Cheyne-Stokes breathing may be the final symptom. Blood pressure is usually very high, the higher the worse the prognosis.

As to the treatment of acute Bright's there are only two rather diametrically opposed methods. One based wholly on clinical experience and the other principally upon the experimental work of Dr. Martin H. Fischer. We will take up the general management first. In acute Bright's we have an eliminative organ acutely inflamed. We should then rest this organ as much as possible. We may do this by putting our patient to bed and by eliminating by way of the bowels and the skin—I think Epsom salt is our chief drug. I give it in saturated solution, preferably every morning or every other morning in one drachm to one ounce doses. If for any reason it can't be taken, compound Jalap powder in ten grain doses night and morning, or we can give Elaterin in one-quarter grain doses. Personally I do not think it advisable to give calomel in acute Bright's. It further endangers an already inflamed kidney. However, small doses are allowable and may not do harm.

If there is not much oedema you can give fluids freely, either plain, Lithia or what is known as the imperial drink so common in England—Cream of Tartar lemonade. This is one of the best of diuretics. In a little tot there is no trouble to get them to consume large quantities.

Now what is the indication of a diuretic? We have a kidney which is acutely inflamed, swollen and filled with debris. The more we can sweep out with the least irritation the better off we are. I prefer Basham's mixture in two dram to one-half ounce doses every two to four hours.

Keep your patient physically and mentally at rest. If he is restless and can't

sleep a dose of bromide and chloral is usually satisfactory.

To promote elimination through the skin the body should be kept quite warm. It is advisable to keep the skin moist and active.

Three ways of handling this.

1. Wet pack (one hour) (not sponges).
2. Dry pack (two blankets one-half to one hour);
3. Hot air;

(Every three hours).

Right here I might mention that it is not advisable to use a hot wet pack in any unconscious or uremic patient.

Now as to the diets in these acute cases. Sweet milk is about the best (three quarts a day). Buttermilk, ice cream, milk toast, cereals and junkets.

Meat and meat proteins should be avoided as soon as albumen is found, and salt should be used sparingly or not at all. As the case gets better, fruits, lettuce, spinach, turnip greens and eggs may be given.

The treatment of acute nephritis by nephrotomy or by renal decapsulation has been practiced by some, especially in those cases where there is an abundance of lumbar pain and not very severe urinary symptoms. These operations have in some cases caused relief of symptoms but should be tried as the last resort only. The resulting scar tissue may of itself aggravate conditions especially if a chronic interstitial nephritis should ensue.

As many cases of acute nephritis are due to bacterial infection a question of vaccine arises. So far the vaccines have given us no results either in acute, sub-acute or chronic stages.

Fisher Treatment.

Fisher has shown (experimentally) that acidosis will cause odema and albuminuria, and that this odema and albuminuria can be overcome by overcoming the acidosis with alkalies. He argues that in nephritis we have conditions similar to those that he has experimentally produced by acidosis and and overcome by the use of alkalies. Furthere he has shown that by using sodium chloride that a smaller amount of alkali is needed to overcome the acidosis and resulting odema. He recommends the hypertonic solution, which is known as Fisher s Solution.

Sodium chloride .....14 grams
Sodium carbonate .....10 grams
Water distilled .....1,000 c.c.

This can be given either by rectum or intravenously (500 c. c. twice daily). He advises a heavy salt diet and soft foods, rest and looking after the bowels in the usual manner.

Chronic Perenchymatous Nephritis.

Chronic perenchymatous nephritis pathologically is the large white kidney. It is a diffuse nephritis involving the tubule, gloneruli and interstitial portion of the kidney. The cortex is thickened, there are opaque areas due to the deposit of fat, the tubules are filled with hyaline substance and interstitial tissue is increased. It is a chronic inflammation of the kidney with exudation characterized by—

1. Decreased amount of urine.
2. High specific gravity.
3. Decreased urea.
4. Albumen and casts.

There is a great amount of pallor, odema and weakness in these cases. Acute Bright's may merge into a chronic form and sometimes it may be primary and develop insidiously. If it follows acute Bright's, symptoms will be similar but of modified intensity.

Developing as a primary affection possibly dependent upon chronic alcoholism, sypilis, febrile diseases and the like. Its first indication may be a gastro-intestinal crises. Odema about the feet or eyelids cause attention to a possible nephritis and a urinalysis makes the diagnosis certain.

The cardinal symptoms are odema, dropsy, anemia and the urinary changes. Now with this may be some of the uremic symptoms, as headache, nausea and vomiting.

The prognosis is always grave in these cases. Recovery may take place especially in a young subject, where they have been in this stage only a few months and may live for years. Increased sclerosis, increase of

urine and increased odema mean that the patient is growing worse. They die as a rule in a state of dropsy.

Treatment of Chronic Perenchynatous.

It is about the same as in acute nephritis, in general. These patients should avoid cold and if they are financially able a warm equitable climate is preferable. It is a good plan to put these patients on Basham's Mixture. One or two warm baths a day and two saline purges weekly. These patients should be on a salt free diet unless you are carrying out the Fisher treatment.

Diet: Milk, buttermilk, cereal and vegetables.

In the cases of marked odema tapping may be resorted to. Give Digitalis if indicated for the heart.

Chronic Interstitial Nephritis.

This may be termed a cirrhosis of the kidney or a contracted kidney without exudation. It is a chronic fibrosis of the kidney associated with blood pressure (hypertension); Arterial Sclerosis and with a tendency toward apoplexy, cardiac failure or uremia. The chronic perenchymatous nephritis may merge into this form of nephritis or may result from arterio-sclerosis, gouts, alcoholism or syphilis or it may occur spontaneously. Its early stages pass unrecognized though it may be well looked in hearty eaters where a habit of high arterial tension exists. Although essentially a disease of past middle life and older age it occasionally is met with in children.

Of the early manifestations increased arterial tension is most important. It may be the only cardinal symptom of a number of symptoms which include headache, palpitation, bronchial cough, tinnitis-aurium, dizziness, malaise, anorexia and a number of other phenomena.

Closely following we find hypertrophy of the left ventrical in the heart, with eventual enlargement.

Of the entire organ and corresponding changes in the character of the apex of the heart is nearly more significant than that of the kidney.

You can not make a diagnosis of interstitial nephritis from the urine alone.

Now what does the urine show at this time?

1. History of a copious amount.
2. Specific gravity low.
3. May be a few hyalin and granlar casts
4. Albumen may be totally absent and usually is.

But if you can take in connection with this urinalysis other symptoms you can readily reach a conclusion. You may have cases of high blood pressure and no sclerosis. Now what are the simplest conditions in order that you may diagnose it? A man past 40 years. Arterio-sclerosis (high blood pressure). Increase in the amount of urine with a hypertrophied heart.

The prognosis of a contracted kidney is unfavorable as to recovery. No kidney in which the characteristic change has been wrought probably ever return to its normal state. Something may be done to arrest further development of the disease. Sooner or later the disease advances slowly or rapidly to an ultimate unfavorable termination.

Now as to treatment. When a patient comes to you in this condition if he has not already slowed down he must decidedly do so now. Treatment must consist mainly in measures to arrest the spread of the disease from localized foci in the kidney to larger areas. The uric acid of the gouty diathesis must be kept in solution or eliminated. Alcohol and excessive eating especially of protein food must be cut down and the patient put upon a diet of milk, vegetables and fruits. Worry and the strain of strenuous business must be done away with. The patient should lead a care-free life as much as possible. A most important item in the orvation of cardica compensation. High blood pressure should not be made the object of direct therapeutic attack as is frequently done. If blood pressure is 170 to 180 leave it alone. It is purely compensatory, but if it is 240 to 260 it is certainly advisable to try to reduce it. Sodium nitrite may be given in two to five grain doses ev-

ery four hours. Nitroglycerine, tr. aconite or tr. of veratrum or some of the others may be used. It is not advisable to use more than these drugs at a time, that is, in the same prescription.

Bleeding can be resorted to in certain selected cases. If a man falls on the street with a blood pressure of 240 or 260, why, bleed him at once. The appearance of dropsy in primary chronic nephritis almost invariably signifies the advent of cardiac failure. At this stage digitalis becomes the mainstay or treatment. Do not withhold this drug on account of high pressure as it acts just as well or even better with a high blood pressure as with a falling pressure.

THE IMPORTANCE OF EARLY DIAGNOSIS OF PRIMARY SYPHILIS, WITH SPECIAL REFERENCE TO THE DARK-FIELD EXAMINATION.

F. C. Nesbit, M. D., Atlanta, Ga.

It cannot be emphasized too frequently or too emphatically that the fate of the syphilitic individual depends largely on the early diagnosis of his infection and the intensity with which the treatment is carried out in the first six months. It is in the accomplishment of this purpose that the modern aids to diagnosis have rendered the practitioner invaluable service. It is impossible for even a highly trained observer to recognize by his sense of sight and touch alone, all that can be revealed by the laboratory. Chanchroids frequently harbor the organisms of syphilis, and owing to the longer incubation period of the latter, do not develop their characteristic features until after the expiration of two or three weeks, or they may entirely fail to develop any induration. The secretion of all these lesions should be searched for the SPIROCHETA PALLIDA, and with failure to find them, a favorable prognoscis should be withheld until after repeated examinations and possibly including the Wassermann test have been made. A dark-field is especially valuable in developing chancres before they acquire their clinical characteristics.

The dark-field examination is of paramount importance in the early diagnosis of untreated chancre, but its usefulness generally is greatly lessened as the majority of lessions have been treated locally before the dark-field apparatus is resorted to. In the Army we saw many venereal lesions which had been treated, before the dark-field examination had been made, contrary to the Surgeon-General's order forbidding the treatment of any suspicious open lesion until after dark-field examination had been made. Hoffman has shown by inoculation experiments that spirocheta is present in the blood three weeks after the manifestation of roseola. By the time the primary lesion has developed sufficiently to become noticeable the infection has already reached the lymph channels of the skin papillae, with free access to the larger lymph streams. In fact Neisser has shown by excision experiments on apes that this probably occurs within eight or ten hours. The spirocheta does not so far as experiments show, reach the blood vessels or begin to wander through delicate capillary walls until later.

It is no longer as a rule necessary to wait for the development of the secondary symptoms and the positive Wassermann, since, by the dark-field method a diagnosis is made, the patient put on appropriate treatment, the rapid multiplication of the organisms controlled and the often prevention of secondaries and the positive Wassermann. Chancres are usually single, but not always so, as evidenced by the following facts.

If a monkey is inoculated with syphilis, in a few days it develops immunity to reinfection. It is for this reason the chancre is usually single. Multiple chancres develop only when the infections has occurred at the same coitus, or within a few days of each. For this reason too, a man canot be reinoculated with virus obtained from his own chancre, or elsewhere. The immunity, as in the case of the monkey, made its appearance long before the initial lesion developed. The initial lesion in a severe form of infection, is usually a sign of strong reactive power of the system, the spirochetes are surrounded by the leucocytes, the tissues are trying to encapsulate

them, antibodies are found and the organism is guarded. The characteristic hardness of the initial lesion is in part due to the swelling of the surrounding lymph vessels, as a result of the obstructive lymphangitis. On the contrary a mild initial lesion, which in many cases passes unobserved, shows that the system is unprepared to cope with the infectious agent. The sprocheta finds its way more often through the blood vessels, and in a short time the eruption appears. This form of initial lesion is the one which is followed by severe and stubborn constitutional symptoms.

Incubation of chancre.—May be from ten to ninety days.

Appearance of chancre.—The floor has the redness of raw beef, there is a considerable amount of serous secretion present.

Edge of chancre.—The edge is usually flat and sharply demarcated from the surrounding tissues.

Area surrounding chancre.—Usually normal.

Palpation.—Chancres are usually hard after ten days to two weeks, due to the above mentioned pathology, although some chancroids are hard and indurated, especially in case which have undergone irritation of some sort, some chancres are not hard.

Frequency of multiplicity.—About fifteen to twenty per cent of all chancres are multiple.

Frequency of chancre.—My opinion is, that that about sixty-five per cent of all venereal lesions are syphilitic, in the porer classes of patients the percentage is considerably higher than the better class.

Extrnal genital chancre.—External genital chancres are very easily overlooked, probably on account of their rarity, some of the frequent locations are: chancre of the pubic region, chancre of the lip usually single, chancre of the scrotum usually multiple, chancre of the nipple, usually bilateral due to simultaneous infection by the infant. Digital chancres are often mistaken for felon. Other frequent locations are, face, neck, scalp, arms and legs.

Thoroughness of dark-field search.—If at first the spirocheta are not found, the examination should be repeated several times carefully. I hav failed to locate the spirocheta in twelve successive examinations in the same lesion, to be rewarded upon the thirteenth, by finding the organism. This is mentioned to send home the fact that persistency paid in this case.

A definite clinical diagnosis can often be made if the genital sore is clinically a chancre, even there the dark-field examination and the Wassermann reaction are both negative, it is perhaps better to start intensive treatment rather than await the appearance of secondaries and the positive Wassermann.

The institution of radical treatment of primary syphilis accomplishes what syphilologists term the abortive or radical cure of the disease, which seems about one hundred per cent permanent. Usually the first injection of salvarsan puts an immediate end to the infectivity of the patient.

During the first four to ten days of the primary lesion, diagnostic effort should be concentrated to find the spirocheta, for never again in the life of the history of the disease for the patient and his fellow-men will there be just such another moment. The most important period of a syphilitic's life is the primary stage of the disease. It is the time to get in the sledge-hammer blows of treatment. A week's energetic treatment at this time is worth a year's treatment later. The moral is, have a thorough dark-field examination made of every suspicious penile lesion, and if shown to be syphilitic attack the infection with the utmost vigor.

Candler Bldg.

References: John A. Fordyce, Journal A. M. A., Feb. 16, 1916; Thomas M. Paul, The Urologic and Cut. Rev., Nov., 1919; Joseph V. Klauder, Journal A. M. A., March 8, 1919.

AMBLYOPIA, ITS CAUSES AND HOW TO PREVENT IT.

J. C. McKinney, M. D.,
Athens, Ga.

I realize that a majority of the men present are general practitioners and give the diseases of the eye but little study, and rely on the special men to treat the diseases of the eye, more than any other single specialty.

With this in view, I shall best as I can deal with my subject in such a way that it will be helpful to the general practitioner.

Amblyopia is a reduction of the acuteness of the vision of an eye, in which the most careful examination reveals nothing sufficient to account for the defect. And one which can not be improved by glasses.

Possibly no other pathological condition in any other vital organ can produce such disastrous results with such little observatory changes.

During the recent examinations of the men for military service, the examining boards found a large per cent of men whose vision in one eye was 20/200 or less with a perfect looking eye. In fact an amblyopic eye, if there is no squinting, is normal in appearance. On examining the fundus of a normal eye we find no scotoma or pathological change. We have a congenital amblyopia where the eye is born defective in its seeing qualities, the cause may be in the optic nerve or absence of the cones at the fovea, or the visual centers in the brain may be at fault.

But the eye I wish to call your attention to is the squinting eye or cross-eye in childhood.

Squinting is given but little consideration by the laity, and I must say by a large per cent of the general practitioners. This neglect is due in a great part, to the special men in not calling the attention of the general men to the destructive effect of a squinting eye. We have all seen children in our general work, whose eyes become crossed, and we, like the parents, give it but little thought, thinking it was due to some weakened condition following a sick spell, but when they regained their strength the eyes were still crossed, but later in life possibly they became straight with an amblyopic eye, or they remained crossed, and are then brought to the special men for treatment, but if this is after the end of the sixth year we are helpless to improve the sight of the eye, the only thing we can do then is to shorten or lengthen the extrinsic muscles in an attempt to straighten the eye for cosmetic appearance.

The retina being one of the first organs of the body to fully develop, and this is always before the end of the sixth year, it is easy to understand how a child with a constant unilateral squint for the eye that is squinting, to suppress the diplopia or double image, and cause a cessation of development, and a degeneration of the retina from non use. Especially is this true at the macula region, which contains the center of visual acuity.

A case of alternating squint, even though the vision in each eye separately be perfect, the child will, when both eyes are open, only see with the straight eye. The impression received by the deviating eye will be mentally suppressed. The squint may be alternating in the beginning, and the child have the ability of fixing either eye, but soon one eye will do all the fixing, and the child become a constant unilateral squint, while the squinting eye will lose its acute vision, and the power of central fixation. The younger the child is the more rapid this degeneration. A child with good vision in each eye, who develops a constant unilateral squint, at the age of twelve months, will in the absence of proper treatment, become rapidly blind in the deviating eye. In fact the loss of vision in a child at this age is so rapid that the power of central fixation is often lost within two and a half or three months. The older a child is before it begins a constant unilateral squint, the longer the time before the power of central fixation is lost. A child which begins to squint at the age of three years, seldom quite loses the power of central fixation in the deviating eye in less than twelve months. Visual acuity or central fixation is never lost in a

squinting eye of the squint appears first after the end of the sixth year. This same rule holds good in the development or degenerative effect of the retina from opacities in cornea, aqueous, or vitreous humerous or soft cataract of the lens, and they should have early treatment to prevent an amblyopic eye from developing from these causes. We must not lose sight of two important things, which are necessary if the child is to have normal sight, the retina must develop by normal growth before the end of the sixth year, and for it to develop and not degenerate and become an amblyopie eye it must be kept in use. Seven per cent of all untreated squinting eyes become amblyopie; ninety to ninety-five per cent are convergent. Squint therefore is responsible for most amblyopie eyes. Then why do children squint? To answer this question and make it plain to you we must first study an emmetropic or normal eye. Rays of light proceeding from a point of a distant object, are regarded as entering the eye as parallel rays of waves. These rays when entering an emmetropic or normal eye, undergo refraction as they pass through the refractive media (cornea, aqueous, lens, vitreous) and brought to a pointed focus at the retina. This is called statie refraction of the eye, as no effort of accommodation takes place under these conditions. An emmetropic or normal eye may be eonsidered as a strong convex lens, with parallel rays of light entering from a distanee of twenty feet or more, whose retina is a sufficient distance behind the refractive mebia, for these rays to come to an acute point at the retina, without any effort of accommodation.

Rays of light entering the eye from a near object are divergent, as the static refraetion of the normal eye which is just sufficient to focus the parallel rays at the retina, will not accurately focus these divergent rays, the eye must then ehange for a state of static refraetion to that of dynamie refraction. This change is brought about by the eontraction of the cilliary museles, which causes the lens to become more convex. This increased refractive power of the lens makes it possible for these divergent rays to be focused on the retina. This increased refractive power of the lens is eailed accommodation. In childhood the lens is very soft and elastic, by the action of the ciliary muscles on the lens the child has a very wide range of accommodation. At the age of ten they have 14 diopters of accommodation; at twenty it has decreased to ten diopters; at thirty to seven diopters; at forty to four and one-half; at fifty to two and one-half; at seventy the lens has no power of accommodation. So as age advances the lens gradually become more and more hardened, until at or about the age of forty-five the contraction of the eiliary muscles on the lens is insufficient for focusing near objects, although distant objects are still perfectly focused by normal static refraction. This is the presbyopie age, and normal presbyopic sighted persons must either hold their book at a distance in order that the rays of light may be more parallel or they must supplant their weakened aceommodation with a pair of convex lens in order to properly focus these rays on the retina. The retina is a delicate transparent membrane, and situated exactly in the center of the posterior part of this membrane is the maeula lutea, in which the sense of vision is most acute, and when we wish to see objects most perfectly, the image must be formed on this sensitive part.

The eye is then in a state of fixation. An imaginary line passing from the center of the macula lutea, through the optical center of the eye to the object looked at, is called the visual axis. In binocular vision when the two eyes look at a distant object their visual axes are considered to be parallel, and a picture is formed simultaneously on the maeula of eaeh retina. When a near object is looked at both eyes must converge, in order that the visual axes of each eye may be directed to the object, This is called convergence. At the same time each eye in order that the rays of light from the object may be aeeurately focused on its retina must accommodate. From individual habit and

the fusion centers in the brain, these two functions, accommodate and convergence, are so associated that in ordinary life they are always used together. For each diopter of accommodation used by a normal eye, there must also at the same time be the same amount of meter angles of convergence used. When the eyes converge one meter angle to fix an object at forty inches, the lens must also use one diopter of accommodation. When the eyes converge to an object ten inches away then four meter angles of convergence must be used. When we remember that the motor inervation from the third nerve (motor oculi) supplies both the muscles of accommodation and convergence, we can understand how easily it is for these two functions to act so harmoniously together. I shall now attempt to answer my question, Why do children squint? Excepting paralysis of one of the extrinsic muscles or in rare instances in early childhood, where there is some anatomical defect in the eye or one of the extrinsic muscles, always from a refractive error in the refractive media of the eye. All refractive errors are either hyperopic (farsightedness), myopic (nearsigntedness) or both hyperopic and myopic astigmatism. In hyporopia the refractive media fails to bring parallel rays to a focus at the retina under a static refraction. Hyperopia or compaund hyperopic astigmatism, are responsible for most cases and myopic astigmatism. In hyperopia the accommodate to focus objects at infinity while convergence is held in check. As accommodation and convergence act simultaneously from the motor impulse of the third nerve, this extra accommodation will cause a heavy strain on the cilliary muscles, and at the same time stimulate the internal rectus muscle to contract and pull the eye inward, but the fusion centers in the brain hold this muscle in check until there is some disturbance between the fusion centers, and convergence , then the fusion centers lose control over the axis of the eye, and when the cilliary muscles are stimulated to accommodate for this high degree of hyperopia in the refractive media, the internal rectus muscle is at the same time stimulated to contract and pulls the eye inward and produces convergent squint. In myopia this condition found in hyperopia is reversed. The nervous impulse through the third nerve to the cilliary muscle is to relax in order that the lens may become more flat, in order that the rays may be focused back to the retina. Also at the same time this same nervous impulse through the third nerve to the internal rectius muscle is to relax, but the fusion centers hold it in check, until as in hyporopia when the fusion centers are disturbed and no longer able to control the axis of the eye, the internal rectus from this abnormal stimulation to relax, relaxes which causes the external rectus to become the stronger and pulls the eye outward and produces myopic divergent squint. There are a few other causes for divergent squint. These I shall omit as they are very rare, and the treatment very unsuccessful.

Treatment consists in preventing amblyopia and not curing it. Treatment should be begun early in all squinting eyes, in fact the earlier the treatment after the appearance of squint, the better the results in preventing the loss of the eye. As soon as a child is noticed to begin squinting the straight eye should be bandaged or a flap placed over it, so as to make the squinting eye focus, or better a one per cent solution or one per cent ointment of atropin dropped or rubbed in the straight or fixing eye each morning. This may be kept up for weeks. In this way the squinting eye is forced to be used, and this use will keep the retina from degenerating and will stimulate a retina that has that has its acute vision, provided this has not after the end of the sixth year, and the eye has not been out of use until the cones at the macula have degenerated. All squinting eyes should be refracted under atropine with a Retinascopic mirror, and the child should wear this correccontinually. One drop of a one per cent solution of atropine should be dropped in both eyes for awhile after the child begins to wear this correction. The treatment is to correct the error of refraction as soon as possible after the appearance of the squint, and make one eye do the work for awhile,

then the other, until the correcting glasses relieve the strain, and the fusion centers regain control over the internal rectus muscle.

Savannah, Ga., January, 22, 1920.

Journal Medical Society of Georgia,

Atlanta, Ga.

To the Editor:

I am sending in a few items of interest of the Medical Society of this city.

On December 19, 1919, the members of the society who had served in the Army and Navy were tendered a banquet at the De-Soto Hotel, by those members who for various reasons were forced to remain at home. About 75 members were present, Dr. J. Lawton Hiers presiding, and several short talks were made by Drs. Hesse, Waring, Corbin, Myers, Train and others. Dr. Ralph Methvin Thompson read a new poem, apropos of the occasion. It was a highly enjoyable occasion and greatly appreciated by the guests.

The Georgia Medical Society has been notified by the executors of the will of Dr. J. Ewing Meers of Philadelphia, that he left a legacy of $1,000 to the society for the "foundation of the William Meers Library fund, in memory of his ancestor who came to Savannah from England in the year 1735."

The following officers were elected at the annual meeting, December 16, 1919. Dr. W. H. Myers, president; Dr. Lawrence Lee, vice-president, and Dr. E. L. Bishop, re-elected secretary-treasurer. Dr. W. H. Myers and G. R. White were elected delegates to the State Association.

Yours very truly,

Ernest L. Bishop, M. D.,

Secretary-Treasurer.

AMERICAN REVIEW OF TUBERCULOSIS—OSLER.

S. Adolphus Knopf contributes a short appreciation of the late Sir William Osler, Honorary Vice-President of the National Tuberculosis Association. Osler's interest and work in tuberculosis are touched upon, and there is appended a bibliography of over fifty titles on tuberculosis which at various times appears under his arm.

Knopf, S. Adolphus, William Osler, 1849-1919. Amer. Rev. Tuberc., Vol. 111, No. 12.

Pulmonary Syphilis.

In a paper from the Department of Medicine of the Jefferson Medical College, Funk expressed his belief that late syphilis of the lung occurs clinically more often than is generally taught. Diagnosis is difficult and judgment may have to be suspended until lues has been controlled by treatment, when "apical rales" will clear with the associated bronchitis if signs are due to syphilis. The author reports in detail three cases of what he believes were pulmonary syphilis that have come under his own observation. In arriving at a diagnosis the following points are important: (1) the history; (2) signs of syphilis in other organs; (3) the location of the lesion—syphilis usually involves the hilum areas of the bases, unusually rare locations for primary tuberculosis lesions; (4) the persistent absence of tubercle bacilli when signs of advances pulmonary diseases are evident; (5) a positive Wassermann reaction when all tests for tuberculosis are negative; (6) certain roentgenographic features which the author gives in detail; and (7) the response to antisyphilitic treatment.

Funk, Elmer H. Pulmonary Syphilis. Amer. Rev. Tuberc., Vol. 111, No. 12.

THE JOURNAL

OF THE

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NEWS: Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to physicians. We shall be glad to know the name of the sender in every instance.

Editorials

"CHRISTIAN SCIENCE" AND SLOPPY THINKING.

A New Jersey salesman, who claims to have been a member of the "Christian Science" faith for three years, was recently found guilty of manslaughter because he had permitted his 9-year-old daughter, who was suffering from diptheria, to die without medical treatment. The little girl was given "treatment"—"absent" and otherwise—by a professional "Christian Science" practitioner. The man was fined $1,000 and costs. The judge, in imposing sentence, is reported to have said:

"In the light of present-day science, which is the result of many years of progressive experiment and demonstration, no one is justified in neglecting the use of such agencies as have been shown to be efficient in the treatment of malignant and contagious diseases, and this is especially true where one is charged with responsibility over the life of another, and particularly of a child of tender years, who has no option but to rely on the common sense and good judgment of its natural protector."

The verdict has brought to light, as such verdicts are likely to do, the loose thinking that characterizes so many of the so-called intellectuals of today. Well-meaning people, who deny that they are followers of Mrs. Eddy, have written to the newspapers denouncing the verdict and declaring that it is little less than a crime that a man should be punished for following the dictates of his conscience. The main point stressed by such people seems to be that as children children occasionally die of diphtheria under medical treatment, there is no reason for getting excited when a child dies under "Christian Science" treatment. The argument, of course, is fallacious. The efficacy of the mod-

ern scientific medical treatment of diphtheria is not a matter of theory, belief or conscience —it is a matter of fact. Its efficacy is an demonstrable as is the efficacy of the Westinghouse air brake. The parent or guardian who fails to give his child or ward the benefit of modern medical treatment for diphtheria becomes as culpable as a railroad would be if it failed to equip its passenger trains with air brakes. Sometimes, it is true, the air brake fails to avert a fatality; but that is not the fault of the air brake, nor is it any argument for its abilition.

If an adult in his own right mind wishes to be treated by "Christian Science" or any other unscientific methods, there can be no objection, provided the disease from which he is suffering may not, through such treatment, become a menace to the community. Children of tender years, however, should not be sacrificed to the distorted views of those who are supposed to be their protectors.

Religious beliefs should be respected and, in general, they are respected. Where, however, religious beliefs conflict with the general welfare, such beliefs must give way. Presumably, the Mormons were sincere in their belief in polygamy; that particular tenet of their religion, however, had to give way to the more enlightened belief of the rest of the community. The Dukhobors that migrated to Canada were undoubtedly sincere in their belief that they should go nude, and the practice of this belief was undoubtedly less of a menace to the community than are some of the bizarre views held by "Christian Scientists" regarding the cause and treatment of disease. Nevertheless, the Dukhobors had to put on clothes. It is conceivable that we might have transplanted to this country some of the religious beliefs of India, but it is doubtful whether public opinion in the United States would ever look with equanimity on Suttecism, even though the widows might declare that being burned on the funeral pyres of their deceased husbands was a matter of their own personal belief and was none of the concern of the general public. Only a few weeks ago a man in Chicago shot his son with the avowed intention of killing the boy because he feared the lad was acquiring bad habits and he wished to save the boy's soul.

We have not yet noticed any letters of indignation protesting against the man's arrest. Possibly this is because he represents a minority. Should such beliefs ever reach the dignity of a religious cult with money and well-organized publicity machinery behind it, there would doubtless be found many to defend the killing of minors for the purpose of saving them.—Jour. A. M. A., May 22, 1920.

BOOK REVIEWS

Orthopedic and Reconstruction Surgery. By Fred H. Albee, M. D., Professor of Orthopedic Surgery, New York Post-Graduate Medical School. W. B. Saunders Co.

The publication of this book is a noteworthy event in the annals of medical literature. No department of medicine has made greater progress in the past two decades than orthopedic surgery, and no orthopedic surgeon has contributed more to this progress than Dr. Albee. The profession therefore has awaited with unusual interest the coming of the first edition of a volume which embodies so much original work.

While the book expresses mainly the ideas of one man, the subject is covered thoroughly, and the references are voluminous. The publication of such a book would be justifiable on account of its discussion of the bone-graft alone. No one has accomplished more with the bone-graft than Albee. However, this matter was well covered in a recent work by the same author.

The chapter relating to military and industrial reconstruction surgery is especially timely at this time. The illustrations throughout are splendid. It is gratifying to note the presence of such a large percentage of original photographs and drawings, and the absence of old ones.

Dr. Albee's book should hold the attention of all medical men as showing in a graphic manner the modern advances of one of the most important specialties. It will give its more practical service to the orthopedist and to the general surgeon doing orthopedic work. Boland.

ABSTRACTS

MECHANICS OF THE STOMACH AFTER GASTRO-ENTEROSTOMY.

John T. Murphy, American Journal of Roentgenology.

The following are a series of observations upon 25 cases in which gastro-enterostomy was performed for ulcer of the stomach or duodenum. The cases were taken from our records and no effort at selection was attempted. The object of the examination was to help the surgeon in the proper location and size of the gastro-enterostomy opening.

In doing this several main things were kept in mind. What becomes of the new opening in a stomach after gastro-enterostomy? Does it functionate in the presence of a patulous pylorus? Is it always necessary to occlude the pylorus after gastro-enterostomy is performed? Is gastro-enterostomy a drainage operation? Do such artificial occlusions remain permanently closed? Upon all of these questions there is as yet little unity.

All of the cases in this series were cases of ulcer of the stomach or duodenum, and in every case a posterior gastro-enterostomy was performed. The methods employed were the same as are used in an ordinary gastro-intestinal case. A pint to a quart of buttermilk, in which were mixed four ounces of mucilage of acacia and from two to four ounces of barium sulphate, was given the patient in the upright posture. Four hours were allowed as the normal time for the emptying of the stomach of this meal. The vertical fluoroscope was used in the preliminary examination to determine the position of the opening, the shape, size and position of the stomach. In the examination of the pylorus and of the duodenum, if shown, the right lateral prone position was used. The ages of the patients examined were from 25 to 60 years. The length of time since the operation was as follows:

Less than six months 6
Over six months but less than one year...6
Under a year and a half but over one year..6
More than two years 3
More than four years 1
More than six years 1
Date unknown 2

In many of these cases no difference in the filling of the stomach was noted. In others the rapidity with which the food left the stomach prevented it from filling except in part. In several cases, the entire organ filled just as in the normal, including the pylorus, and then the opening began to functionate and allowed the meal to pass rapidly into the small bowel. In these cases, even though the pylorus was patent, only a very small amount passed out in the normal way in the upright position. In a certain number of these cases the food left the stomach rapidly, until only a small amount remained along the greater curvature of the stomach, with a correspondinga mount in a loop of the jejunum. This remained for some time, but in only one case did this persist long enough for it to be of pathological significance. In this case, a posterior gastro-enterostomy, number 21 of the list, the anastomosis was made parallel to and high up on the greater curvature. The pylorus was sutured and remained closed The food ran out of the new opening very rapidly until its level was reached, then it was emptied slowly leaving a residue at 24 hours. This case had very severe symptoms, pain, feeling of heaviness, gas eructations and vomiting and the patient was very miserable generally. In only four of the cases of this series were the patients not uniformly well. In all but one of these four, the reason for the recurrence was found at the fluoroscopic examination. In case number 20 the gastro-enterostomy was functionating perfectly, emptying the stomach in two and one-half hours, with nothing but the slightest delay in the jejunum to account for the symptoms. The stomach was spastic which suggested that possibly the ulcer had never healed. A positive Wassermann reaction with an amelioration of the symptoms following anti-syphilitic treatment established a diagnosis of gastric crisis. This has

been substantiated by the progress of the spinal disease since the examination. In number 23, because of a complete recurrence of pain and distress 18 months after the gastro-enterostomy, the patient applied for re-examination. An irregularity of the pylorus suggested carcinoma although the new opening was functionating well. Re-operation revealed a carcinoma of pylorus engrafted upon the ulcer site. This caused the death of the patient. Case number 21 had a reeurrence of pain after meals about six months after the operation. Upon examination stasis was found to occur posterior to the stomach and, after careful study of the barium movement, we believe that an extra loop of jejunum had been included in the operation, causing a stasis at this point with distention of the bowel which continued some time after the stomach was empty. No subsequent operation has been performed so we have no operative confirmation.

We have deduced from the above data:

That patients having gastro-enterostomy operations properly performed are uniformly well.

That a patent does not interfere witl the funetion of a properly placed gastro-enterostomy opening.

That the opening must be of sufficient size placed at the lowest point and almost directly below the lesser curvature of the stomach.

That opening so made remain open permanently. That it is not a necessity but a good surgieal procedure to occlude the pylorus, thereby causing the stomach to empty, at least temporarily, by the gastro-enterostomy opening.

That gastro-enterostomy is a drainage operation.

That in no ease have we ever been able to demonstrate serious distention of the loop of a small bowel near the opening into the stomach.

That regurgitation of food baek into the stomach does not seem to make any difference in the results of the operation.

That ulcer diet should be used after the operation. That liquid food, by preference cool liqnids, leave the stomach with the least peristalsis. That all gastro-enterostomy patients should eat frequently and a less quantity of food at each meal.

Niles.

Tuberculosis Infection of Guinea Pigs by Inhalation.

Rogers of the Cincinnati Tuberculosis Sanatorium reports further experiments on the production of pulmonary tuberculosis in guinea pigs by the inhalation of tuberculosis material. In all the experiments the guinea pigs were wrapped so that only their nostril was exposed to the spraying. All animals giving a single spraying of five minutes with a suspension of tuberculosis sputum developed pulmonary tuberculosis. Particles of tuberculosis sputum containing tuberculosis bacilli placed on the normal nasal mucous membrane brought about tuberculous changes in the cervical lymphatic with involvement of the lungs, liver and and spleen later.

Rogers, J. B. Further Observation on the Artificial Tuberculosis Infection of Guinea Pigs through the Respiratory Route. Amer. Rev. Tubere., Vol. 111, No. 12.

Operation and Recovery in Spontaneous Pneumothorax Following Artificial Pneumothorax

A patient with acute tuberculous broncho pneumonia was treated by artificial pneumothorax. Thirty-four days after the first introduction of nitrogen gas and following a coughing fit,spontaneous pneumothorax developed. At first partial; within twelve days the spontaneous pneumothorax had become complete, and purplent fluid developed in the chest. The patient became very septic and gravely ill and on the eighteenth day of the spontaneous pneumothorax a rib resection was done under local anaesthesia. C. H. Coeks, of Asheville, who eommunieates this case report, notes that, after surgical operation, the patient's relief was spectacular and that his fever disappeared within a day or two and has remained normal since. The author discusses the probable causes of spontaneous pneumothorax fol-

lowing artificial pneumothorax, but comes to no conclusion regarding its etiology.

Cocke, Charles Hartwell. Spontaneous Pneumothorax following Artificial Pneumothorax with Operation and Recovery. Amer. Rev. Tuberc., Vol. 111, No. 12.

ACUTE RESPIRATORY INFECTIONS.

W. H. Robey, Jr., and H. Caro, Boston (Journal A. M. A., Aug. 9, 1919), give an account of a series of cases observed at Camp McClellan, Anniston, Ala., which were at first characterized by bronchitis and general malaise, and were difficult to classify exactly. They were mostly mild, and because of the ignorance of their cause the illness was designated as "three day fever," for lack of a better name. One hundred cases were studied intensively, clinically and bacteriologically. "The characteristic symptoms were: onset with chill or chilly sensations, 72 per cent; headache, 93 per cent; general malaise, 92 per cent; pain in joints and chest, 90 per cent; cough, 62 per cent; backache, 51 per cent; sore throat, 21 per cent; and pain in eyes, 12 per cent. The physical findings were redness of throat, 51 per cent; rales scattered through the chest, 50 per cent; redness of eyes, 11 per cent, and herpes facialis, 5 per cent." On admission, the patients felt very ill, but the majority wanted to return to duty within twenty-four hours. The complications were slight in the 100 cases studied; bronchitis, 25 per cent; pneumonia, 1 per cent, and otitis media, 3 per cent. Bacteriologically, there were numerous organisms, a nonhemolytic streptococcus in the throat predominating, and **Micrococcus catarrhalis** being second in importance. Mild neuritis and neuralgias were frequent. There were two cases of fatal nervous complications. The first was a clear cut case of ascending myelitis, aparently caused by an acute respiratory infection three weeks before, but not entirely cleared up. The secone one was more difficult to diagnose, though it was undoubtedly due to some unknown respiratory disorder. The toxin seemed to have a selective action on the extensor muscles, while, oddly, the wrist and toe drop were absent. This case suggested Landry's paralysis; but taking all the facts together, the diagnosis of acute polyneuritis seems most correct. Such cases as these two are of interest as showing that mild infections of the respiratory tract may cause such complications.

Case of Spontaneous Hemo-Pneumothorax Following Artificial Pneumothorax.

Heise and Krause report the following case which occurred in the service of the Trudeau Sanatorium. A man, aged 21, entered the Sanatorium on Sept. 21, 1914, with hemoptysis and pain in his chest his only symptoms and with signs so few and indefinite that diagnosis at first was only tentative. He did well for several months but toward the end of the winter his condition became less favorable. By March he was continually febrile and was having more hemoptyses. Meanwhile his signs indicated a slight stationary process while the X-ray showed markedly progressing involvement. Signs remained equivocal until May 7 when they suddenly cropped out and showed a consolidation below the 3rd rib and 5th v.s. on the left side. Between September and May frequent sputum examination had been uniformly negative; but, on May 27 the fifty-sixth examination was positive for the first time. By this time the patient was gravely ill. On June 3 artificial pneumothorax was performed. The next day, after raising himself in bed the patient suddenly experienced a sharp stabbing pain in the left lung and soon became extremely ill. Appli- and soon became extremely ill. Application disclosed blood in the thorax. The patient went into collapse and died fourteen hours after the rupture of his lung.

An autopsy was found that the pneumothorax needle had not injured the patient's lung. On the anterior surface near the caudal tip was a tear of the pleura over a small cavity and close to a short and very thick adhesion. The entire left lung was involved with a caseating process that was cavitating at numerous places. The left thoracic cav-

ity contained about two litres of clotted blood.

Heise, Fred H., and Krause, Allen K. An unusual case of Pulmonary Tuberculosis terminating in Spontaneous Hemo-pneumothorax following artificial Pneumothorax. Amer. Rev. Tuberc., Vol. 111, No. 12.

VENEREAL DISEASE.

The work of the U. S. Public Health Service for the control of venereal diseases in the military zone is described by C. C. Pierce, Washington, D. C. (Journal A. M. A., Aug. 9, 1919). Special measures were necessary, based on the findings of other countries during the war. Epidemic disease is contracted, it had been shown, mainly in municipal areas with unsatisfactory sanitary regulations. The inevitable relation between liquor and prostitution and venereal disease had been demonstrated, and five-sixths of the infections found among troops were acquired in civil life before entering camp. Telegrams calling for a campaign of wisely conducted publicity, immediately followed by a letter containing a program of the work, were sent to all state health officers. The first step in the plan was the opening of clinics, and up to the time of writing fully 250 of these, where cases could be treated, have been established. Legislation was also asked for, and the activity and cooperation achieved were greatly aided by the Chamberlain-Kahn Act of Congress, making appropriations for state boards of health and requiring the reporting of cases of syphilis and gonorrhoea. A further stimulus was given by the Presidential order of July 1, 1918, placing public health activities of civilian federal agencies under the Public Health Service. The first year's work has emphasized the cooperation with state boards of health, and at the present time this cooperation is being carried out in forty-four states. Investigations on the causes and prevalence of venereal diseases are being carried on along four lines, which may be generally described as, medical, educational, legislative and social. Medical investigation is carried on largely in clinics and in hospitals. Vocational work is also started in certain hospitals for venereal patients and carriers. Thorough mental examination is included. The follow-up work is also mentioned. Public education on the subject is carried on frankly, without being unnecessarily frightful. This concensus of opinion of teachers as regards sex hygiene is that the information should be given simply and unobtrusively in connection with courses on botany, biology, civics, history, etc. The ignorant and willful should be controlled by laws fully enforced. The enforcement of sanitary measures should not raise an issue with educational and moral appeal. The undertaking is a community undertaking—not merely a task for physicians. In the beginning of the work a retail druggists' association, representing about one-sixth of the retail druggists in the U. S., offered its cooperation, and a card containing an appeal approved by these druggists was sent to all the pharmacists in the country, asking their cooperation in the good work. The response was most gratifying. In closing, Pierce emphasizes the peculiar relation of the physician to this work. It is he who must teach the people, and his duty often means the discovery of sources of infection, the tracing up of carriers, and the maintaining of high standards of the clinic in the hospitals. He must be assured of the aid of an intelligent and appreciative public. We face long established prejudice, which yields slowly, but the possibilities have been shown by what has already been done.

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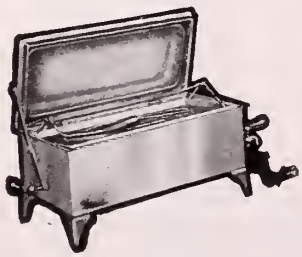
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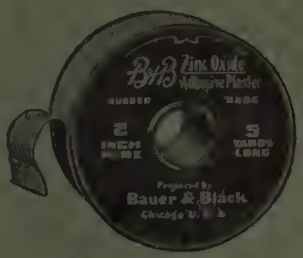
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THIS house received a ton of ergot a few months ago. Samples of it were subjected to a series of physiological tests. The drug was only one-half as active as that demanded by our standard. The shipment was promptly rejected.

During the past three years difficulty was experienced in getting digitalin of a quality that would meet our requirements. Numerous samples were tested. They ranged in activity all the way from 25% to 75% of our specifications. The result is that no digitalin is supplied under the P. D. & Co. label at the present time.

Consignments of digitalis leaves received during the past few years showed a pronounced variation in activity when tested physiologically. One lot was three times as potent as the standard. Two others were respectively one-fourth and one-half as potent.

Recently a quantity of belladonna leaves was examined that assayed two-thirds of the desired strength. Another lot was twice as potent as the recognized standard. Several lots of aconite showed as much variation in activity as 100%, and hyoscyamus, on different occasions, varied as much as 600%.

Standard preparations of variable drugs, such as those mentioned, are made by increasing or decreasing the amount of raw material used in the manufacturing process.

Some time ago it was impossible to get strophanthus of good quality. The commercially available drug, when tested physiologically, proved to be only one-fourth as potent as the standard requirement. As a result, it was necessary to use four times the usual quantity of drug to make a product that would conform to the specifications of this house.

Methods of testing therapeutic agents are being devised and improved constantly in our scientific laboratory. Frequently there are no charted paths to follow—no established methods of determining the potency of drug products. In such cases we proceed to devise standards. A biological product for the control of hemorrhage was developed recently. How could the activity of the preparation be determined? And how could the product be adjusted to a uniform standard of activity? A physiological test was devised—a test which specifies that this hemostatic must shorten the coagulation time of the blood to at least one-third the normal for the test animal used.

Thousands of raw products are used by this house in manufacturing its three thousand pharmaceutical and biological preparations. Every substance is tested before it is accepted; and every finished preparation is likewise tested by the best available scientific method to insure a definite and uniform standard of activity.

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